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CHEMNITZ

Process-Orientation and Core Competence Management
—
The Contribution of the
Process-Oriented Core Competence Management
to the Integration of
the Market-based View and the Resource-based View

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To my parents

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List of Abbreviations

3Es	Encontro de Estudos em Estratégia
ABC	Activity-based Costing
ABM	Activity-based Management
BCG	Boston Consulting Group
BPR	Business Process Redesign
BSP	Business Systems Planning
BVA	Business-Value-Added
CAD	Computer Aided Design
CCM	Core Competence Management
CD	Compact Disc
CEO	Chief Executive Officer
EFQM	European Foundation for Quality Management
EnANPAD	Encontro da ANPAD
EnEO	Encontro de Estudos Organizacionais
IO	Industrial Organization
IT	Information Technology
JIT	Just-in-Time
MBV	Market-based View
MIT	Massachusetts Institute of Technology
NVA	No-Value-Added
OC	Organizational Capabilities
OEM	Original Equipment Manufacturer
PAT	Process Analysis Technique
PERT	Program Evaluation and Review Technique
PIMS	Profit Impact of Market Strategies
PPC	Production Planning and Control
Prophecy	Process-Oriented Performance Headed Strategy
QFD	Quality Function Development
R&D	Research and Development
RBP	Resource-based Perspective
RBT	Resource-based Theory
RBV	Resource-based View
ROI	Return on Investment
RVA	Real-Value-Added
SA	Structured Analysis
SCP	Structure-Conduct-Performance
SD	Structured Design
SPI	Strategic Planning Institute
SWOT	Strengths, Weaknesses, Opportunities and Threats
TQC	Total Quality Control
TQM	Total Quality Management
USA	United States of America
VRIO	Value, Rarity, Imitability and Organization

1. Introduction

1.1 Problem and Motivation of this Work

1.1.1 Strategic Management and its Views of Competitive Advantage

Today strategic management is a wide scientific area. Started from the financial planning in the 50's¹, models of strategic planning became popular and resulted in the emergence of more modern approaches that help to understand and support organizations' strategic decision-making. Throughout the evolution of strategic management, different interests led to various research streams that meet specific demands of investigation and practice. A comprehending systematization of works was offered by Mintzberg et al., who identified ten different "schools" of strategy formation². While some of these schools are of *prescriptive* nature, since they are interested in providing adequate procedures to the strategy formulation, other ones are seen as *descriptive*, as their focus remains in explaining how strategies have been created.

To the practice, strategic management is nowadays more important than ever, mainly due to the opening of markets provided by the "globalization"³, as the competition is no longer restricted within regional borders. The invasion of Asian products in the Occident and the economic integration within continents, which is clearly perceptible in Europe and South America, are visible faces of the present context. Since long term competitiveness is crucial to a firm's survival, a main role of strategic management, as a scientific discipline, is to provide appropriate theoretical support to the practice through the offer of instruments that help organizations to identify current and future sources of competitive advantage, so that adequate strategies may be successfully formulated and implemented.

Pertaining to the study of the sources of competitive advantage two main streams of research in strategic management may be clearly identified: the "Market-based View" (MBV), which is strongly tied to Industrial Organization and mainly bases on the fundamental concepts of Michael Porter, namely the "five forces model", the "generic strategies" and the "value

¹ Ansoff and Hayes (1981: 15), Gracioso (1987: 16).

² Mintzberg et al. (2000). A previous version of this work was presented by Mintzberg (1990).

³ Stiglitz (2003).

chain”⁴, and the “Resource-based View” (RBV), which is primarily rooted in works about diversification, rents and organizational learning and has the “VRIO framework”⁵ and “core competences”⁶ as prominent contributions. While the MBV looks for identifying sources of competitiveness in the market environment, the RBV seeks these sources in firms’ resources and capabilities. As the RBV emerged later, motivated mainly by criticisms of the MBV, both are frequently seen as diverging streams; however, several works have recognized that both are complementary approaches, which should be theoretically integrated. Although in the practice firms have used several concepts of the MBV and the RBV simultaneously, at a theoretical level such combinations seem not to be formalized yet.

Efforts towards filling this gap might consider theoretical constructs that interface both the external and the internal firm perspectives. As a possible “linking element” between them, the concept of “core competence” has been suggested, since it presents a strong market-orientation. The term “core competence” was proposed by Prahalad and Hamel to explain how some Japanese corporations, such as Sony and Canon, became world market leaders after acquiring several technological capabilities, which allowed these firms to create and lead new markets, since innovative product functionalities and customer interfaces were offered⁷. The management of *core competences* became rapidly a main issue both in the business research and in the practice, especially within large companies. As the management of *core competences* concerns a pro-active look for market leadership, their close interface with the firms’ external perspective is unquestionable and, thus, these special types of firm capabilities might be considered in further efforts to integrate the MBV and the RBV.

Another suggestion concerning a “linking element” refers to the “business processes”, since they are the way by which resources and capabilities are employed to produce goods and services to customer markets. Therefore, the concept of “process” presents direct interfaces with both internal and external perspectives and might help building theoretical concepts to link the Market-based View with the Resource-based View of competitive advantage.

⁴ Porter (1980), Porter (1985).

⁵ Barney (2002).

⁶ Prahalad and Hamel (1990).

⁷ Prahalad and Hamel (1990), Hamel and Prahalad (1994).

1.1.2 The Strategic Role of *Process-Orientation*

A major topic in business management in the last two decades concerns *process-orientation*, which consists in the alignment of firms' structures and management with their business processes. The underlying justification is the understanding that processes, and not functions, are the ways through which value is created and customer demands are satisfied; thus, managerial attention should prioritize the performance of processes, and not of functional areas, as it is typical of "traditional" organizations.

Concepts based on *process-orientation* have largely been implemented at operational levels and "Process Reengineering"⁸ and "Process Improvement"⁹ may be considered the main process-oriented approaches. Besides them, several other concepts present interfaces with *process-orientation*, such as "Just-In-Time" (JIT), "Lean Manufacturing", "Total Quality Management" (TQM), "Supply Chain Management", "Business Networks" and "Activity-Based Costing / Management" (ABC/ABM)¹⁰.

The implementation of process-oriented concepts has been associated with gains of productivity in several organizations. Many academic and consulting publications have explained how the different approaches provide improvements, mainly of costs, quality and lead-time levels. While the importance of these optimizations cannot be denied, it should be recognized that they are basically related to tactical and operational aspects of management. Moreover, an analysis of the literature on *process-orientation* allows identifying that there is apparently little attention concerning the role of process-oriented approaches in strategic management.

Consequently, the lack of a structured interface between process-oriented concepts and strategic management should deserve attention of research efforts. A possible perspective to deploy this integration may be found in the literature, which has offered some discussions about the interfaces between the concepts of "process" and "core competence"¹¹. However, although both concepts have commonalities with each other, their interrelationship is apparently not clearly conceptualized yet. The filling of such a gap might contribute not only

⁸ Davenport (1993), Hammer and Champy (1993).

⁹ Harrington (1991).

¹⁰ For references on these approaches, see chapter 3.

¹¹ See e.g. Gaitanides and Sjuris (1995), Krüger and Homp (1997) and Rohm (1998).

to the integration between *process-orientation* and strategic management, more specifically in the case of *core competence management*, but can also support the development of “interface elements” between the MBV and the RBV.

1.2 Objectives and Structure of the Work

Since some theoretical demands are identified, namely (1) the structuring of a combined view of the MBV and the RBV, which might perhaps be developed on the basis of the concept of *core competence management*, and (2) the necessity of explaining how *process-orientation* may be associated with strategic management, the present work intends to offer a contribution to fill the mentioned gaps in the form of a model of *core competence management* that is related to *process-orientation*. To reach this objective, the following research questions must be answered:

- How is *process-orientation* linked with concepts of strategic management?
- How are the foundations of *process-orientation* and *core competence management* related to each other?
- In which form may the integration of *core competence management* and *process-orientation* contribute to the combination of the Market-based and the Resource-based Views of competitive advantage?

The answers to these research questions require several steps of investigation. They will basically be:

- To understand the main concepts of strategic management, mainly those related to the study of the sources of competitive advantage (the MBV and the RBV) (**chapter 2**).
- To investigate the theoretical foundations of *process-orientation* and the relationship between its concepts and some strategy theories (**chapter 3**).
- To analyze the theoretical foundations of *core competence management*, with a special attention on how *process-orientation* has been considered (**chapter 4**).
- To propose a model of *core competence management* that is integrated with *process-orientation* (**chapter 5**), considering the discussions previously developed.

At the end of each chapter, partial observations will be outlined and, finally, the last section of this work (**chapter 6**) will present conclusions and assess in what grade the objective of this research is reached. The structure of the present work is schematized in figure 1.1.

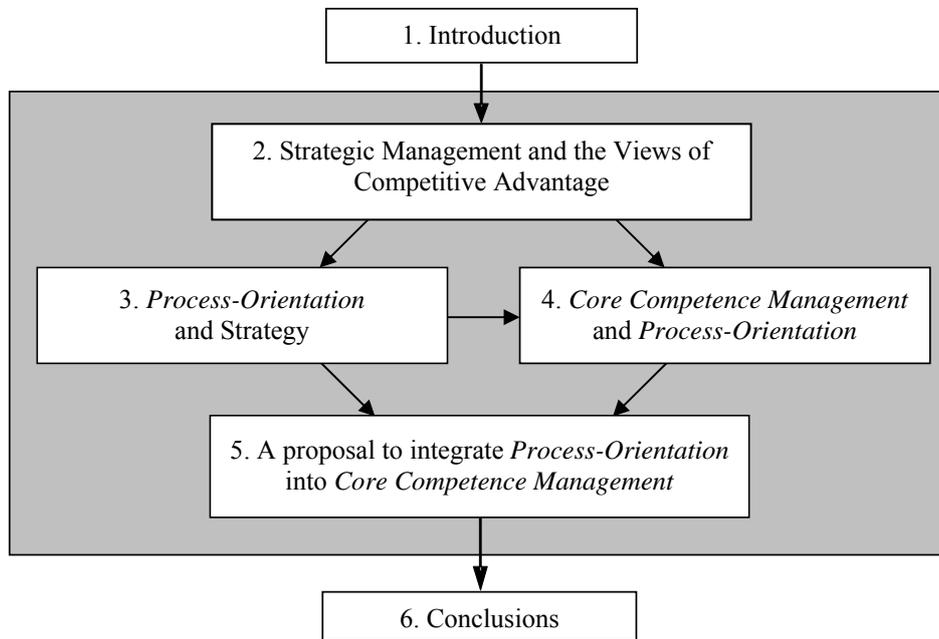


Figure 1.1: Structure of the thesis

1.3 Research Contextualization

Research projects may be classified according to different criteria. Two common categories concern the *objectives* of the research and the adopted *means of investigations*¹². Pertaining to *objectives*, the present work represents basically an *exploratory research*: this one is related to a deep study of specific issues, involving usually bibliographic and documental gathering of information, with the intent of offering the investigator the basis for the development of contributions on the investigated topic¹³. An *exploratory research* usually does not provide answers to research questions; however, it can help to define the following steps of investigation, including the necessary research methods¹⁴.

¹² Vergara (1997: 44). For a short review on these two categories, see e.g. Teixeira Jr. (2002: 4-5).

¹³ Trivinos (1997: 109), Gil (1991: 45), Santos and Candeloro (2006: 73).

¹⁴ Babbie (2005: 89-90).

The classification concerning the *means of investigation* is related to the technical procedures and data gathering methods followed in the research¹⁵. The present work should initially be identified as a *bibliography research*, since it involves a systematized study of published works, such as books and journals¹⁶. Moreover, since a *conceptual model*¹⁷ will be deployed on the basis and conclusions of the literature review, the methodology of *philosophical conceptualization*¹⁸ also characterizes this investigation.

The present work is limited at a conceptual level of discussion: it consists of the identification of theoretical gaps and the following development of contributions that help to solve specific problems of the involved theories, especially those of *core competence management* and *process-orientation*¹⁹.

¹⁵ Gil (1991: 47), Thums (2000: 109).

¹⁶ Vergara (1997: 46), Thums (2000: 109), Santos and Candeloro (2006: 70-71). It may be observed that bibliographical research usually is present in exploratory studies.

¹⁷ Meredith (1993: 5) explained that a “conceptual model” is a set of concepts used to represent or describe an event, object or process. In the proposition of such concepts “a mental model of the suspected relationships is posited, which may then be evaluated by means of a framework that captures the essence of the system under investigation” (Meredith et al., 1989: 316).

¹⁸ According to Meredith (1993: 8), “philosophical conceptualization” is a methodology of theory building “that results from philosophical reflection. It basically integrates a number of different works on the same topic, summarizes the common elements, contrasts the differences, and extends the work in some fashion”.

¹⁹ Chapters 5.3.2 and 6 will discuss limitations of this work and of the offered contributions.

2. Strategic Management and the Views of Competitive Advantage

Chapter 2 presents basic foundations of Strategic Management, especially the concerning views of competitive advantage. Respecting the historical evolution of related research, the text begins with the fundamentals of strategic planning, followed by the Market-based View (MBV) and, at last, the Resource-based View (RBV). Finally, a comparison of the MBV and the RBV allows a discussion on theoretical demands and possible perspectives which are then to be met.

2.1 Basic Definitions

2.1.1 Strategy

“Strategy” is a term created by the ancient Greeks (old Greek: “strategos”) and signified a “magistrate” or an “army commandant”. Since the second half of 19th century it has also been used in the business context¹. Strategy has been described in this area through several definitions², whereby the most common one perhaps refers to it as a *plan* of rational actions³. In general, this meaning concerns a “consciously intended course of action”⁴, like a direction, a guideline or a route of actions for the future⁵. Usually only a part of this plan is effectively accomplished, which is classified as a “deliberated strategy”, and the unaccomplished part is called an “unrealized strategy”⁶. The essential characteristics of strategies as a *plan* are that “they are made in advance of the actions to which they apply, and they are developed consciously and purposefully”⁷.

However, Mintzberg identified that strategies are not always necessarily the result of rational planning⁸ and appointed the existence of four further definitions: *ploy*, *pattern*, *position* and

¹ Ghemawat (2000: 16). For a more detailed explanation of the historical evolution of the meaning of “strategos”, see Welge and Al-Laham (2008: 12).

² Barney (2002: 6) compared different meanings found in literature and commented that “there are almost as many different definitions of the concept of strategy as there are books written about strategy”.

³ Such a view represents the “classic” understanding of strategy (Welge and Al-Laham, 2008: 20).

⁴ Mintzberg (1987a: 11).

⁵ Mintzberg et al. (2000: 17).

⁶ Mintzberg (1987a: 13).

⁷ Mintzberg (1987a: 11).

⁸ Welge and Al-Laham (2008: 20).

perspective. Strategy as a *ploy* represents a declared intention of doing something, in order to mislead the plans of competitors - a tactical maneuver. An example would be the announcement of the expansion of a plant's capacity, in order "to discourage a competitor from building a new plant. Here the real strategy [...] is the threat, not the expansion itself"⁹. Strategy also reflects an organization's "consistency in behavior, whether or not intended"¹⁰. For this reason strategy is also considered as a *pattern*, which is observed in the stream of actions in the course of time¹¹. Besides "deliberated" strategies (that once were a *plan*) there exist some behaviors that are realized without conscious intention; they are called "emergent" strategies¹² (figure 2.1).

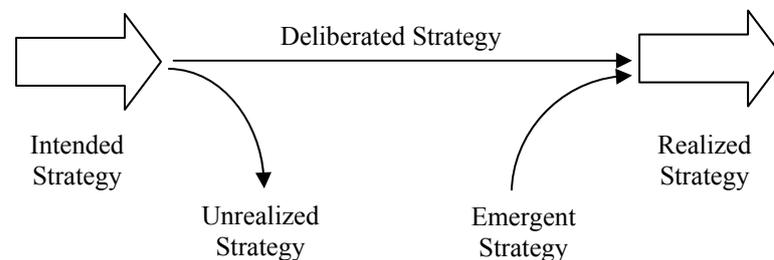


Figure 2.1: Strategy Formation
Source: Mintzberg (1978: 945)

A strategy is also considered as a *position*¹³. When a firm launches a product in a new market, it is accomplishing a strategy as a *position* - setting certain products in certain markets. Moreover, a given *position* may be reached through an unconscious pattern of behavior. Therefore, a strategy may be understood as an intended or an unpredictable position of organizations in an environment¹⁴.

⁹ Mintzberg (1987a: 12).

¹⁰ Mintzberg (1987a: 12).

¹¹ Andrews (1997: 52) defined corporate strategy as "the pattern of decisions in a company that determines and reveals its objectives, purposes, or goals, produces the principal policies and plans for achieving these goals, and defines the range of business the company is to pursue, the kind of economic and human organization it is or intends to be, and the nature of the economic and non-economic contribution it intends to make to its shareholders, employees, customers, and communities" ("corporate" refers to the strategy of the whole enterprise, instead of the business strategy, which regards individual business - a further explaining about strategy levels is presented in chapter 3.4.3.1).

¹² Mintzberg (1987a: 12-13).

¹³ Mintzberg (1987a: 15-17).

¹⁴ Mintzberg (1987a: 15). This author also commented that "In ecological terms, strategy becomes a "niche"; in economic terms, a place that generates "rent" [...]; in management terms, formally, a product-market domain, the place in the environment where the resources are concentrated" (Mintzberg, 1987a: 15).

As *perspective*, strategy is the fundamental manner of an organization doing business¹⁵. While strategy as a *position* searches a location in the external environment, strategy as a *perspective* concerns the way the organization faces the world and adapts itself to it. “Strategy is a perspective shared by the members of an organization, through their intentions and / or by their actions”¹⁶ and this is reflected in corporative “ideologies”, as in IBM (marketing), Hewlett-Packard (engineering) and McDonalds (productive efficiency)¹⁷.

2.1.2 Strategic Management

Strategic management has been the object of various and controversial investigations with the primary objectives of explaining the results of companies, as well as of submitting suggestions regarding the choice of strategies¹⁸. In this context, strategic management concerns many factors, such as¹⁹:

- future markets and products;
- behavior against competitors;
- long range politics of price, communications, delivering and procurement;
- vertical integration, financing, technology and innovation;
- investments to build manufacturing capacities; as well as
- decisions about shareholding, firm growth, legal form, location and management concepts.

The research on strategic management is nowadays versatile. For instance, a systematization of existing streams identified ten different schools of strategy formation, as summarized in figure 2.2²⁰.

¹⁵ Mintzberg et al. (2000: 19).

¹⁶ Mintzberg (1987a: 17).

¹⁷ Mintzberg (1987a: 16-17).

¹⁸ Götze and Mikus (1999: 6).

¹⁹ Götze and Mikus (1999: 3).

²⁰ The description of these ten schools was initially published by Mintzberg (1990) and later expanded by Mintzberg and Lampel (1999) and Mintzberg et al. (2000). Welge and Al-Laham (2008: 27) called the last work the broadest “inventory taking” of the theoretical streams in strategic management.

School	Strategy formation as
Design	...a process of conception
Planning	... a formal process
Positioning	... an analytical process
Entrepreneurial	... a visionary process
Cognitive	... a mental process
Learning	... an emergent process
Power	... a process of negotiation
Cultural	... a social process
Environmental	... a reactive process
Configuration	... a process of transformation

Figure 2.2: The ten schools of strategy formation

Source: Adapted from Mintzberg and Lampel (1999: 22-25)

The three first schools (Design, Planning and Positioning) are of “prescriptive” nature - they are more interested in how strategies *should be* rather than how they *have been* formulated. The next six (“descriptive”) schools (Entrepreneurial, Cognitive, Learning, Power, Cultural and Environmental) consider specific aspects of strategy formation, describing how strategies are formulated. The school of Configuration, in turn, combines the other ones, associating them to different conditions as, e.g. the stages in the life cycle of the organizations²¹.

Strategic management may also be understood as a process: a sequence of phases, which do not necessarily present a linear succession but possess many interrelationships. Three main phases may be identified: strategic planning, implementation and control^{22,23} (figure 2.3). These phases are divided in several activities that should be subdivided in other levels, and among these activities, there exist various flows of information. Due to the iterative linkage

²¹ Mintzberg et al. (2000: 14-15). Concerning the strategy formation in the works of the configuration school, Mintzberg (1990: 182) commented that “the process can be one of conceptual design or formal planning, systematic analysis or intuitive vision; it can be one of individual cognition and / or collective learning or politics; it can be driven by personalized leadership, organizational culture, or the external environment; and the resulting strategies can take the form of plans and patterns, ploys, positions, or perspectives; but each must be found at its own time and its own context”.

²² For an alternative to these phases, see e.g. Welge and Al-Laham (2008: 185-187). These authors considered the following phases in their representation of strategic management process: planning of strategic goals, strategic analysis and prognosis, strategy formulation and assessment, strategy implementation and strategy control.

²³ The separation between planning and implementation in strategic management is one of the major issues of the criticism of Mintzberg and his fellows (see e.g. Mintzberg, 1990: 116, and Mintzberg et al., 2000: 37-41).

among its different parts, strategic management may be characterized as a dynamic process, which may delineate a learning organization²⁴.

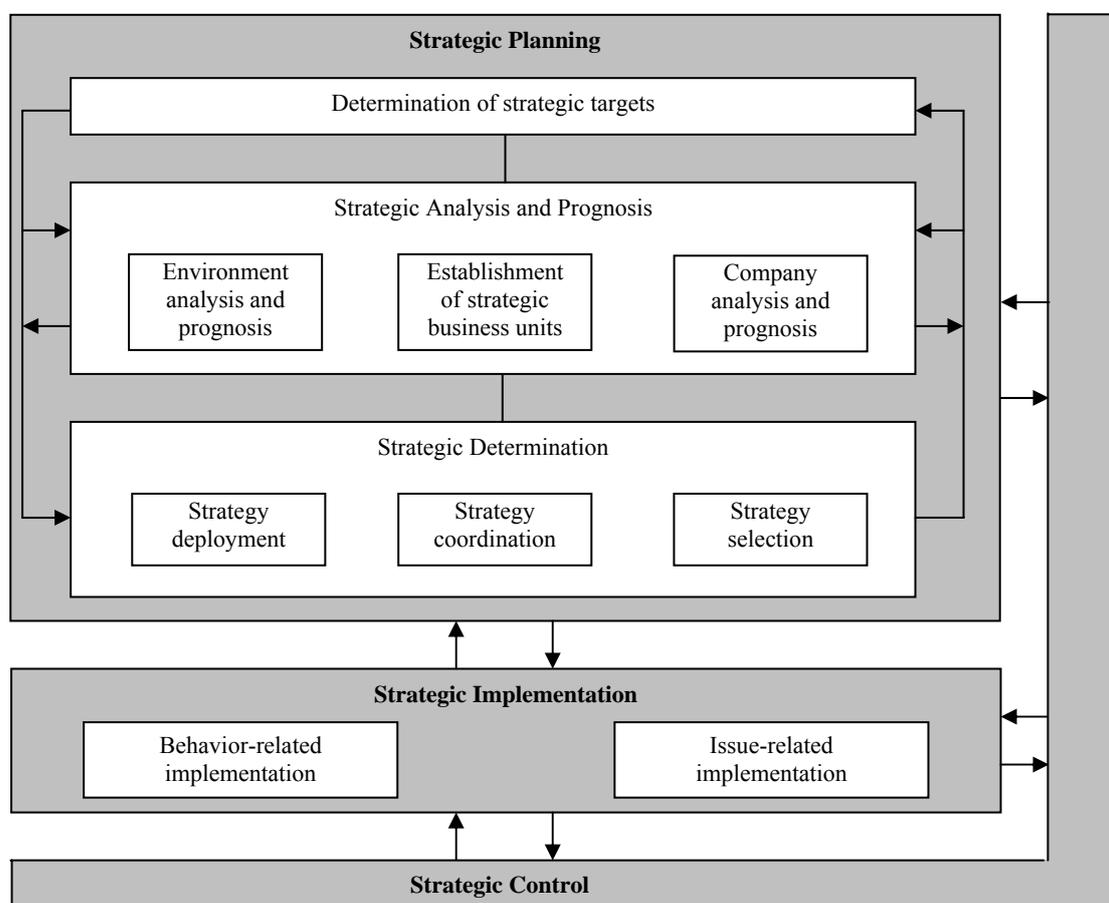


Figure 2.3: The Strategic Management Process
Source: Götze and Mikus (1999: 10) (translated)

A major theme in the research on strategic management concerns “competitive advantage”. Among the large number of definitions, a recently proposed one tries to cover the different understandings: “An enterprise has a competitive advantage if it is able to create more economic value than the marginal (breakeven) competitor in its product market”²⁵. The related search for explanations of how firms create and maintain competitive advantages became a major issue in strategic management in the last decades²⁶ and is a goal of two

²⁴ Götze and Mikus (1999: 10-11). For a study on the strategic management process of German companies, see Al-Laham (1997).

²⁵ Peteraf and Barney (2003: 314). These authors also explained the meaning of “economic value”: “The *Economic Value* created by an enterprise in the course of providing a good or service is the difference between the perceived benefits gained by the purchasers of the good and the economic cost to the enterprise” (Peteraf and Barney, 2003: 314).

²⁶ For similar statements, see e.g. Barney (1991: 99), Fahy and Smithee (1999: 4), Oliveira Jr. (1999: 30) and Vasconcelos and Cyrino (2000: 21). Moreover, according to Porter (1991: 95), “The reason why firms

major approaches. The first is called “Market-based View”²⁷ (MBV), which considers that the competitive advantage is an effect of positioning in the market environment and is derived from the industry structure, the competition dynamics and the market. The second approach is known as “Resource-based View” (RBV), which identifies the superior performance as a phenomenon that primarily results from the internal characteristics of an organization²⁸. Although the RBV can be seen a theory that contrasts that of the MBV, both may also be considered as complementary ideas to understand the reasons behind competitive advantages.

2.1.3 The Evolution of the Strategic Thinking

Strategic management is a recent scientific discipline and its historical development may be observed in four phases: “basic financial planning”, “forecast-based planning”, “strategic planning” and “strategic management”²⁹.

The beginning took place after the World War II, when particularly large American corporations created formalized systems of annual budgeting, with the aim of better controlling their cash flows. These systems merely represented means of financial planning³⁰ (phase “basic financial planning”) and later incorporated more extended budgets (usually to a five-year range), trends extrapolations and the analysis of future expectations to support environment-oriented planning (phase “forecast-based planning”).

But still in the 50’s, firms met problems of supply and demand due to faster transformations in the (mainly external) markets³¹. The solution was found in the process of “strategic planning”, which is a rational analysis of opportunities that are offered by the environment, of the strengths and weaknesses of companies, and in the choice of a way of adequacy

succeed or fail is perhaps the central question in strategy. It has preoccupied the strategy field since its inception four decades ago. The causes of firm success or failure encompass all the other questions that have been raised in this collection of essays”. Teece et al. (1997: 509) stated explicitly that the “fundamental question in the field of strategic management is how firms achieve and sustain competitive advantage”.

²⁷ The term “Market-based View” was apparently introduced by Rühl (1994: 32).

²⁸ Vasconcelos and Cyrino (2000: 22).

²⁹ Welge and Al-Laham (2008: 11-14). For a closer look on these phases, refer to other authors mentioned there.

³⁰ Gracioso (1987: 16).

³¹ Ansoff and Hayes (1981: 15), Gracioso (1987: 16).

between the firm and the environment - a “strategy”³². The idea was to plan a harmonization among the internal skills and the external possibilities, and accordingly to choose and implement a strategy, which should be an “essential” solution³³ (phase “strategic planning”).

In the *phase* “strategic planning” many models were developed to support the planning of strategies. These models are considered as belonging to the *process* of “strategic planning”³⁴. This phase represented a starting point for structured discussions on distinct matters regarding strategy. Such discussions, together with the growing complexity of the strategic problem, opened space to different fields of research, which constitute the contemporary phase of “strategic management”. In this stage the explanation of the sources of competitive advantage (by the MBV and the RBV) finds an important place³⁵.

The following chapter 2.2 summarizes the main techniques of “strategic planning” and chapters 2.3 and 2.4 describe the basic characteristics of the MBV and the RBV, respectively.

2.2 Strategic Planning

2.2.1 Emergence

As commented above, initial models of strategic planning intended an adequacy between internal capabilities and external opportunities. Such a procedure finds its basis in the so-called “SWOT Framework” (figure 2.4), which is until today a reference point for the strategic planning tools³⁶. These compact ideas of the SWOT framework were later developed in different models, which brought formalization and detail to the different steps of strategy formulation and transformed strategic planning into a regular event in large

³² Ansoff and Hayes (1981: 15).

³³ Ansoff and Hayes (1981: 15). Mintzberg et al. (2000: 28-29) classified this early evolutionary stage of strategic management as the “design school” and appointed the works of Selznick (1957), Chandler (1962) and Andrews (1971) as its most representative ones. These authors stated also that the “design school” defined little about the creation of strategies (Mintzberg et al., 2000: 29).

³⁴ Chapter 2.2 refers to the evolution of the “phase”, and includes well-known models of the “process” of strategic planning.

³⁵ For further explanations about the evolution of the strategic thinking, see e.g. Ansoff and Hayes (1981) and Welge and Al-Laham (2008: 11-14).

³⁶ For details on the SWOT Framework, see e.g. Mintzberg et al. (2000: 28-31) and Barney (2002: 19-22). The term “SWOT” is built with the initial letters of *strengths*, *weaknesses*, *opportunities* and *threats*.

companies in the 70's³⁷. According to Mintzberg et al., most of these models contained similar ideas: take the SWOT model, divide it into clearly delineated steps, coordinate each one with many checking-lists and techniques and give attention to goals-setting in the beginning and to budgeting and operational plans in the end³⁸. At this time, the strategic planning became an elaborate sequence of steps, in contrast to the simple structure of the pioneer SWOT framework³⁹.

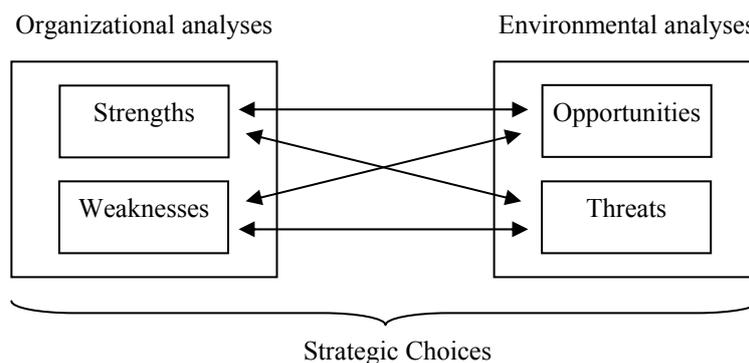


Figure 2.4: The SWOT Framework
Source: Barney (2002: 20)

In the 60's some consulting firms, like the Boston Consulting Group (BCG) and McKinsey & Company, began to offer support on strategic planning with strong influence on the corporate level. Particularly BCG offered two important tools, the "Experience Curve" and the "Growth-Share Matrix". Together with the PIMS database, these two instruments made the search for a higher market-share a main objective for strategies and advised companies to seek for a "better way" to reach it⁴⁰. From this point on, the external factors began to have more impact on the definition of strategic actions, in opposition to the equilibrium present in the SWOT model.

2.2.2 The Experience Curve

References to "learning curves" are found since 1925, when Wright, an airplanes producer, described that the time of manufacturing and, consequently, its labor costs had decreased

³⁷ Mintzberg et al. (2000: 44). For an alternative view about the evolution of research and praxis in the strategic planning and management, see Kühn and Grünig (2000: 39-40).

³⁸ Mintzberg et al. (2000: 45).

³⁹ Mintzberg et al. (2000: 49).

⁴⁰ Mintzberg et al. (2000: 76).

according to the growth of accumulated production⁴¹. This idea was adapted to the strategic planning by the BCG, who (i) renamed it the “Experience Curve”, (ii) included the costs of capital, administration, research and marketing in the analysis, and (iii) observed that the reduction of costs reaches 20% to 30% when the total production is duplicated⁴² (figure 2.5). Reasons for this cost decrease are to be found in scale economies, organizational learning and technological innovation⁴³.

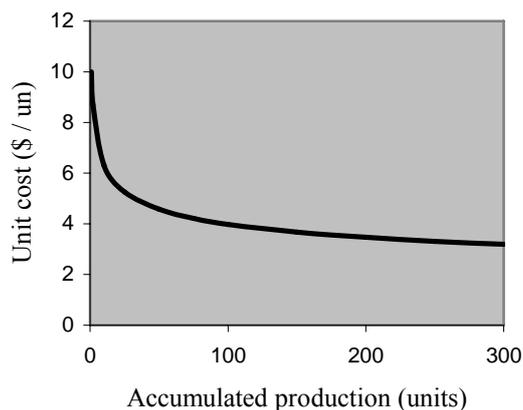


Figure 2.5: Example of an experience curve with a decrease ratio of 20%

The essential idea of the *experience curve* is that the firm that first exploits a new market should conquer and sustain a high market-share, in order to increase its total production and reach a low cost advantage over its competitors. Thus, companies were encouraged to reduce prices, in order to conquer rapidly market-share and to accelerate their experience curves faster than rivals⁴⁴. With the lowest levels of costs in the industry, a firm disposes of some options to improve its competitive position like⁴⁵:

- to initiate cutthroat competition through aggressive politics of prices;
- to strengthen its position on the market with a strategy of differentiation, through investment in quality improvement or through intensifying market development, which are enabled by higher profit margins;

⁴¹ Götze and Mikus (1999: 64).

⁴² Ghemawat (2000: 22).

⁴³ Ghemawat (2000: 22). For a more thorough account of “Experience Curve”, see Götze and Mikus (1999: 64-68) and Kühn and Grünig (2000: 85-90).

⁴⁴ Mintzberg et al. (2000: 79).

⁴⁵ Kuhn and Grünig (2000: 87).

- to apply this financial surplus to another market, in order to build up new divisions through the development of new products or acquisitions.

The BCG argued that the *experience curve* would make it possible to foresee the stability of competitive relationships and to calculate market-share rates and the effects of market growth⁴⁶. While the *experience curve* emphasized the importance of the market-share for a strategic analysis, another well-known tool was developed, the “PIMS database”, which highlights the importance of other factors to a firm’s outcomes.

2.2.3 The PIMS Database

The basis of the PIMS (Profit Impact of Market Strategies) program is found in the PROM (Profit Optimizing Model), an internal tool of General Electric from the 1960’s, which aimed at explaining the factors that affect the variations of the Return on Investment (ROI) in its several businesses⁴⁷. Harvard Business University researchers developed the PIMS, which has been managed since 1975 by the Strategic Planning Institute (SPI) that collects data from participant companies and sells the analysis of the database to other interested companies⁴⁸. This database is fed by hundreds of firms and involves approximately 3000 business units. Of these business units over 200 measures are selected which are related to market characteristics (delivering channels, amount of customers, growth rate, inflation rate, etc.), competitive position (prices, quality, in comparison to rivals), or the capital structure and production patterns⁴⁹.

PIMS’ main objective is to identify the factors that most strongly influence the variation of the ROI and the cash flow of a firm⁵⁰. These factors are determined with the help of statistic analysis, especially multiple linear regressions and are supposed to help companies in defining quantitative goals in the process of strategic planning of the whole corporation⁵¹. The studies of PIMS identified 37 determinants of ROI and 19 determinants of Cash Flow,

⁴⁶ Ghemawat (2000: 22).

⁴⁷ Ghemawat (2000: 21).

⁴⁸ Kühn and Grünig (2000: 108).

⁴⁹ Buzzell and Gale (1989: 3, cited in Götze and Mikus, 1999: 60). This database is considered, according to Kühn and Grünig (2000: 108), the most significant database for the development of strategy-related empiric studies.

⁵⁰ Gracioso (1987: 77-78), Kühn and Grünig (2000: 108), Mintzberg et al. (2000: 80).

⁵¹ Kühn and Grünig (2000: 112).

which explain a relevant part of the results of the investigated divisions (around 80% of ROI-variance and 70% of Cash-Flow-variance)⁵². Seven of the result determinants that are considered particularly influential are: relative market-share, market-growth, quality of products and services, innovations that contribute to a differentiation from competitors, intensity of investment, value-adding per employee and vertical integration⁵³.

However, PIMS was also criticized by academics, since the exact structure of its analyses, as well as many details of its results, have not been published. Other criticisms concern the fact that the database is based just on big American companies; the imperfection of the model (due to a deficient observation of “soft factors of success”); the applied statistic methods (multiple regression would not be able to determine causal connections) and the insufficient theoretical foundation of the related results⁵⁴.

2.2.4 The Growth-Share Matrix

Encouraged by big consulting companies, portfolio analysis (or its variations) became very popular in the 70's to generate recommendations about strategy, as it helped large industrial corporations to manage their diversity, especially after the petrol crisis in 1973, when they needed to rethink long-range plans in order to save capital resources⁵⁵. In this context, the BCG conceptualized the “Growth-Share Matrix”, which was quickly accepted in practice because of its straightforward interpretation⁵⁶ (figure 2.6).

Before the emergence of this matrix, corporations used capital budgeting to evaluate the ROI of different alternatives of resources allocation in their businesses⁵⁷, and with this tool it was intended to analyze the portfolio of different divisions from a corporate perspective, since

⁵² Kreilkamp (1987: 377, cited in Kühn and Grünig, 2000: 108).

⁵³ Kühn and Grünig (2000: 110).

⁵⁴ Kühn and Grünig (2000: 115). See also other references mentioned there.

⁵⁵ Haspeslagh (1982: 59), Ghemawat (2000: 25). After a survey on portfolio planning, Haspeslagh (1982: 59) estimated that, as of 1979, “36% of the *Fortune* “1000” and 45% of the *Fortune* “500” industrial companies had introduced the approach to some extent”.

⁵⁶ Kühn and Grünig (2000: 46). In the literature this matrix is also referred to by other terms, such as “Growth-Share Portfolio”, “BCG Portfolio” or “BCG Matrix”.

⁵⁷ Mintzberg et al. (2000: 76).

only “at that level is cash balance meaningful”⁵⁸. This matrix should also better rationalize the array of investment priorities and / or assets demobilization⁵⁹.

Market growth	High	Question Mark	Star
	Low	Dog	Cash Cow
		Low	High
		Relative Market-Share	

Figure 2.6: Growth-Share Matrix of Boston Consulting Group
Source: Kühn and Grünig (2000: 46)

According to the concept of “portfolio”, the products and / or divisions of an organization can occupy four distinct positions in the market, and each of these positions differs from the others mainly by the potential of generating or requiring financial resources⁶⁰. The two dimensions used to position each business in the matrix are related to the cash generation and cash requirement characteristics. The horizontal axis concerns the market-share of the unit relative to its major competitor, and the vertical axis corresponds to the current market growth⁶¹ or the expected value in the analyzed period⁶². The utility of this matrix is based on the assumption that high market-shares are associated with a high positive cash flow when market growth becomes stable, because the producer with the most market-share gets lower costs and higher earns due to the learning curves. Therefore, a dominant share should be always intended in order to continually maximize the relation between costs and earns⁶³.

A business unit is a *Cash Cow* if it has a high market-share in a market with a low growth rate. In this case, this unit typically earns much more money than it requires, and this surplus can be directed to other business units that require investments. *Stars* are units with a high

⁵⁸ Hax and Majluf (1983: 54).

⁵⁹ Gracioso (1987: 62).

⁶⁰ Gracioso (1987: 62-63). According to Hax and Majluf (1983: 50), “the fundamental advantage that a multibusiness organization possesses is the ability to transfer cash from businesses that are highly profitable but have limited potential for growth to others that offer expectations of sustained future growth and profitability”.

⁶¹ Gracioso (1987: 64), Kühn and Grünig (2000: 46). The market growth should concern its value in the most recent year (Hax and Majluf, 1983: 46).

⁶² Götze and Mikus (1999: 95).

⁶³ Ghemawat (2000: 23-24).

market-share in high growth markets. They do not always earn all the necessary money to remain in operation, but when the market becomes stable they will turn to *Cash Cows*. *Stars* need to reinvest their incomes in their own operation (and eventually also to receive investments), in order to keep or improve their market-share. Business units that operate in high growth markets and have a low market-share are called *Question Marks*, which are units in the early development stages of a life-cycle. They need substantial investments to increase their share (what can be done through acquisitions of competitors or building capabilities of sales and manufacturing⁶⁴), and if they maintain only their market-share, they will become *Dogs* when the market growth slows down. *Dogs* represent an undesired situation to a unit. They are typically units (or products) at the end of a life cycle, having low market-share in low growth markets and usually a negative cash-flow. They can even generate some accounting profit, which must be reinvested in its business⁶⁵, but soon they will need investments to remain in operation.

These ideas imply some general suggestions for the strategic positioning of business units in a competitive environment (figure 2.7). The four major strategic moves concerning market-share (to increase market-share, to hold market share, to harvest and to withdraw or divest⁶⁶) are proposed in order to reach the “primary objectives of corporations”: growth and profitability⁶⁷.

Business Category	Market-Share Thrust	Business Profitability	Investment Required	Net Cash Flow
Cash Cows	Hold	High	Low	Highly positive
Stars	Hold / Increase	High	High	Around zero or slightly negative
Question Marks	Increase	None or negative	Very high	Highly negative
	Harvest / Divest	Low or negative	Disinvest	Positive
Dogs	Harvest / Divest	Low or negative	Disinvest	Positive

Figure 2.7: Implications emerging from the growth-share matrix
Source: Hax and Majluf (1983: 51)

⁶⁴ Günther (2000: 344, cited in Welge and Al-Laham, 2008: 479).

⁶⁵ Henderson (1999, cited in Mintzberg et al., 2000: 77).

⁶⁶ Hax and Majluf (1983: 51).

⁶⁷ Henderson and Zakon (1980, cited in Hax and Majluf, 1983: 50).

Despite the practicability of the Growth-Share matrix, it received much criticism. Most of them scrutinized the simplified two-dimensionality of the graphic:

- A simple analysis of the size of the market and of the market-share of a business unit should not be enough to offer guidelines to its strategic positioning (without considering internal strengths, for instance). Moreover, the limitation of the matrix to four fields allows only few differed statements to a business unit's strategic orientation⁶⁸;
- The determination of market growth and market share faces difficulties. Especially problematic are, e.g. the demarcation of the relevant markets, as well as the exact determination of the present market volume⁶⁹;
- Shrinking or very new markets are normally neglected. Only increasing markets are usually considered, even if they have become rare⁷⁰;
- The Growth-Share Matrix ignores the sharing of resources among various businesses⁷¹, and also does not provide answers regarding the kinds of performance features, resources and skills that should be developed to reach an advantageous competitive position⁷².

In practice the portfolio thinking led to mostly evident and plausible strategic guidelines on a high level of abstraction. The content of strategy was regularly limited to the presentation of the “current” and the “desired” positions of the strategic business areas, complemented by some statements concerning the scale of the desired positioning changes⁷³. In spite of this criticism the Growth-Share Matrix (and its variations) remains nowadays a very popular tool

⁶⁸ Götze and Mikus (1999: 100), Mintzberg et al. (2000: 78). According to Hax and Majluf (1983: 51), “other methods of analyzing portfolios question the use of market share as an indicator of business strength, contending that many other factors should be considered in establishing the true competitive position of a business within an industry. Even so, most other approaches retain the four categories of market share thrust as a robust way of summarizing the direction of a business”.

⁶⁹ Götze and Mikus (1999: 100).

⁷⁰ Götze and Mikus (1999: 100).

⁷¹ Hax and Majluf (1983: 55).

⁷² Kühn and Grünig (2000: 49).

⁷³ Kühn and Grünig (2000: 49).

and together with other “consulting” instruments, like the PIMS database, it still supports corporations in the design of their strategic plans⁷⁴.

2.2.5 Criticism on the Tools and Practice of Strategic Planning

The 70’s already experienced problems regarding the application of strategic planning. The petrol crises in 1973 and 1979 suddenly caused the reduction of demand levels, which had not been foreseen by strategic planning tools and in the end affected the profits of many companies. *Experience curves* were not useful due to the decrease of demands and the effects of higher inflation rates brought trouble to many firms⁷⁵. The *experience curve* caused a major focus on strategies of cost reduction, which influenced many companies to follow the same strategy, reducing an organization’s ability in responding to the competition⁷⁶.

In portfolio analysis many difficulties were also observed⁷⁷. According to some researchers, the main problem was that portfolio matrixes “did not address how value was being created across the divisions”⁷⁸, whose relationship was analyzed only in form of cash transfers.

Moreover, Porter observed that a common practice of strategic planning was to consider the gain of market-share as a strategic positioning, not as a result of competitive advantage to be developed by a firm⁷⁹.

Mintzberg et al. developed criticism concerning the processes of strategic planning, which are based on e.g. portfolios, the experience curve and the PIMS study⁸⁰. They mainly attacked the dominance of consulting firms on the process, the resulting obsession with cost cutting, the simplification of the applied models and their recommendations, as well as a set of obvious advices to be followed in each situation.

⁷⁴ Many other instruments that help the strategic planning might also have been presented here, such as Scenario Analysis, Delphi Technique and Product Life-Cycle. For an extensive list of instruments that may support the strategic planning, see Götze and Mikus (1999: 51).

⁷⁵ Ghemawat (2000: 26).

⁷⁶ Abernathy and Wayne (1974: 118).

⁷⁷ For this and other problems with portfolio analyses in the 70’s, see Ghemawat (2000: 26).

⁷⁸ Collis and Montgomery (1995: 125).

⁷⁹ Porter (1989: 22).

⁸⁰ Mintzberg et al. (2000: 76-80).

Finally, Barney also commented that “formal strategic planning is not the only way that firms choose their strategies”⁸¹, and cited works that describe informal, emergent and autonomous processes through which firms deploy them. These and other criticisms affected the popularity of strategic planning in the beginning of the 80’s⁸², although these pioneer tools and their variations are still being used nowadays.

The preferential focus of the strategic planning on external factors (see the BCG portfolio) is directly observed in the “Market-based View” of competitive advantage, which brought an economic perspective to the strategy research.

2.3 The Market-based View

2.3.1 The Structure-Conduct-Performance Paradigm

In the 1930’s, some economists started to design a framework intended to understand the competitiveness of industries, in order to assist government regulators. This work originated a new field of Microeconomics - the Industrial Organization (IO), which investigates why some industrial sectors are more lucrative than others⁸³. Basic contributions of the IO are the works of Mason (1939) and Bain (1956), which developed the “Structure-Conduct-Performance” (SCP) paradigm⁸⁴.

Structure (or “industry structure”) pertains to “the relatively stable economic and technical dimensions of an industry that provided the context in which a competition occurred”⁸⁵ and can be measured by “the number of competitors in an industry, the heterogeneity of products and the cost of entry and exit”⁸⁶. *Conduct* represents “the firm’s choice of key decision variables such as price, advertising, capacity, and quality. Thus, in policy terms conduct

⁸¹ Barney (1991: 113).

⁸² Ghemawat (2000: 26). Other criticism may be found e.g. in James (1984) and Mintzberg (1994). Hayes and Albernathy (1980: 68) developed relevant criticisms to all analytic techniques that were made popular by the strategic consultants. They argued that these managerial principles, despite their sophistication and large benefits, had encouraged the preference for (1) analytic detachment, rather than the view obtained through “hands on experience”, and (2) the short-term reduction of costs, rather than development of “technological competitiveness”.

⁸³ Kühn and Grünig (2000: 119), Ghemawat (2000: 36). The major objective of the original studies was “to describe conditions under which perfect competition dynamics in an industry would not develop” (Barney, 2002: 75).

⁸⁴ Ghemawat (2000: 36), Barney (2002: 105).

⁸⁵ Porter (1981: 611).

⁸⁶ Barney (2002: 75).

could be viewed as the economic dimensions of firm strategy”⁸⁷. *Performance* refers to individual firms, as well as the “economy as a whole”⁸⁸. With regard to firms, performance encompasses “dimensions such as allocative efficiency (profitability), technical efficiency (cost minimization), and innovativeness”⁸⁹.

The main message of the SCP paradigm was initially “that a firm’s performance in the marketplace depends critically on the characteristics of the industry environment in which it competes. [...] Industry structure determined the behavior or conduct of firms, whose joint conduct then determined the collective performance of the firms in the marketplace”⁹⁰ (figure 2.8).

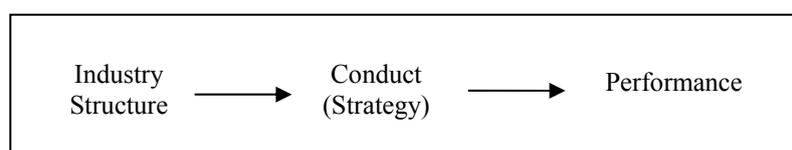


Figure 2.8: The Traditional Bain/Mason Industrial Organization Paradigm
Source: Porter (1981: 611)

Strategy researchers and practitioners, however, “observed that firms can fundamentally change the structure of their industries through their actions”⁹¹. With this perspective, strategy researchers changed the traditional objectives of the SCP, from the regulatory perspective on the analysis of non-competitive industries to the context of business administration⁹², in order to describe the “attributes of an industry that make it *less* than perfectly competitive, and thus help firms find ways to obtain above-normal economic performance”⁹³. According to this view, the range of options and constraints that a firm faces is restricted by the industry structure in which a firm operates⁹⁴, and the industry structure

⁸⁷ Porter (1981: 611).

⁸⁸ Barney (2002: 75).

⁸⁹ Porter (1981: 611).

⁹⁰ Porter (1981: 610-611).

⁹¹ Porter (1981: 613). He argued also that the view of Bain and Mason that “strategic choices do not have important influence on industry structure is nearly dead. It is now recognized that there are feedback effects of firm conduct (strategy) on market structure” (Porter, 1981: 615-616).

⁹² Ghemawat (2000: 36), Barney (2002: 78).

⁹³ Barney (2002: 78).

⁹⁴ Barney (2002: 75).

can allow their participants to earn high profits for a long time⁹⁵. So, only the accurate knowledge of a branch and its structure would allow a firm of this branch to find an optimal strategic position⁹⁶.

Supported by these ideas, Porter (1980) introduced important concepts to evaluate the relationship between the environment and a firm's performance. These concepts - the "Five Forces" framework and the "Generic Strategies" - stand for the most representing works of the MBV, together with the "Value Chain", which was developed for the analysis of a firm's internal perspective. Porter's concepts contain systematic approaches to analyze the connection between external and internal conditions of a firm, so that "ideal" strategies can be identified, under a determined array of parameters⁹⁷.

2.3.2 The Five Forces of Porter

Porter stated that the fundamental determinant of a firm's profitability is the attractiveness of the industry, which depends on the effect of five competitive forces to be considered in the formulation of a competitive strategy⁹⁸: entrance of *new competitors*, threat of *substitutes*, bargaining power of *buyers* and of *suppliers* and the *rivalry* among the existent competitors (figure 2.9).

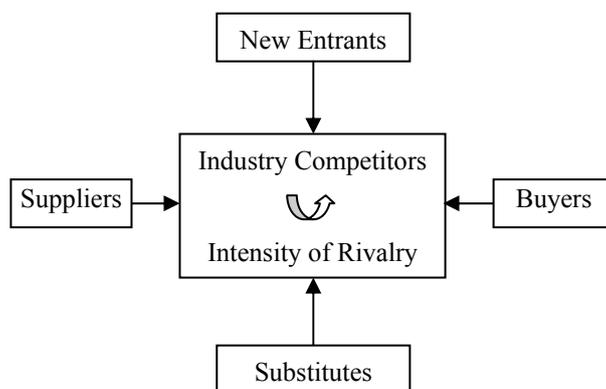


Figure 2.9: The Five Competitive Forces
Source: Adapted from Porter (1989: 6)

⁹⁵ Ghemawat (2000: 36).

⁹⁶ Koruna (1999: 13).

⁹⁷ Mintzberg et al. (2000: 81).

⁹⁸ Porter (1989: 3-4). Instead of "competitive forces", Barney (2002: 78) called them "environmental threats".

Such forces influence the prices, costs and the necessary investment, and thus affect an industry's profitability. In industries where the five forces are favorable, many competitors gain attractive returns, but few firms achieve these ones in those industries where the pressure of one or more forces is strong⁹⁹. The strategies to be developed should neutralize these forces, so that a firm can "either maintain or create above-normal returns"¹⁰⁰.

New entrants are firms that can enter an industry in the future. According to the SCP paradigm, they "are motivated to enter into an industry by the above-normal economic profits that some incumbent firms in that industry may be earning"¹⁰¹. Their entry in a market should change its competitive equilibrium (if existing), bringing down the existing profitability, especially if the market demand becomes fully supplied¹⁰². The key-concept in the analysis of *new entrants'* threats is that of *barriers to entry*, which avoid that other firms try and succeed to enter in a certain industry / market. These barriers occur when it is somehow difficult (or economically unfavorable since they usually represent irreversible commitment of resources¹⁰³) for a competitor to replicate the positions of the current competitors. *Barriers to entry* may be of several types, but the most mentioned ones in the literature pertain to economies of scale, product differentiation, cost advantages independent of scale, contrived deterrence¹⁰⁴ and government regulation of entry¹⁰⁵, as well as the expected reactions of the current competitors¹⁰⁶.

The *rivalry* in an industry threatens firms "by reducing their economic profits"¹⁰⁷ and can occur in various intensities, starting from monopolies or complete cartels, without any competition, through to cutthroat competition, where firms do everything to damage their rivals. A high competitive intensity leads to higher costs of market development, typically

⁹⁹ Porter (1989: 4).

¹⁰⁰ Barney (2002: 79).

¹⁰¹ Barney (2002: 79).

¹⁰² Barney (2002: 80).

¹⁰³ Ghemawat (2000: 39).

¹⁰⁴ *Contrived deterrence* refers to "activities whose sole objective is to deter new entry even if these activities may reduce the efficiency of the incumbent firm" (Barney, 2002: 86).

¹⁰⁵ Barney (2002: 80). This author stated that others *barriers to entry* have been appointed in the literature, but they usually are special cases of these five ones mentioned (Barney, 2002: 90).

¹⁰⁶ Götze and Mikus (1999: 33).

¹⁰⁷ Barney (2002: 92).

with lower prices and, in the end, with lower average profits in a business branch¹⁰⁸. These levels of rivalry result in actions such as frequent price-cutting, frequent introduction of new products, intense advertising campaigns, and other rapid competitive moves in an industry¹⁰⁹. Five key attributes of an industry are appointed, which may generate high levels of *rivalry*: “Large numbers of competing firms”, “competing firms are of the same size and have the same influence”, “slow industry growth”, “lack of product differentiation” and “productive capacity added in large increments”¹¹⁰.

Substitutes represent another category of environmental threats since new products, if they meet the same customer needs, can replace the ones currently offered. If alternative materials (like plastic and ceramic for the automobile industry), technologies (“mp3” format for the music branch) or functions (for instance, better disease prevention, instead of hospitalization) are offered, the profitability of the present competitors can be affected. The use of *substitute* products should also be assessed in terms of their costs of implementation, for example, expenses of training of employees, new tools to manufacture and the redesign of products and processes¹¹¹.

Suppliers also represent an important competitive force. They “can threaten the performance of firms in an industry by increasing the price of their supplies or by reducing the quality of those supplies”¹¹². The analysis of *suppliers* begins with the size and concentration of suppliers in relation to the participants of industry and ends with the grade of differentiation of the supplies¹¹³. High levels of threats in an industry are caused mainly by the five following situations, which enable suppliers to more easily influence prices, quality and conditions of trading¹¹⁴: (i) when a small number of firms dominate the suppliers’ industry, (ii) when suppliers offer unique or highly differentiated products, (iii) when effective

¹⁰⁸ Kühn and Grünig (2000: 125-126).

¹⁰⁹ Barney (2002: 92).

¹¹⁰ Barney (2002: 93).

¹¹¹ Ghemawat (2000: 40).

¹¹² Barney (2002: 95).

¹¹³ Ghemawat (2000: 42).

¹¹⁴ Barney (2002: 95-96)

substitutes do not threaten the suppliers, (iv) when suppliers can menace “forward vertical integration”¹¹⁵ and (v) when a firm is not an important customer to its supplier.

The force of *buyers* can influence the profitability of an industry’s firm through reasons that are similar to the power of *suppliers*. The *buyers’* power can reduce profit margins when they impel competitors to reduce prices or to increase service levels, which should be offered without reward¹¹⁶. In the following situations the threat of *buyers* can be very pertinent¹¹⁷: (i) when there are few buyers, (ii) when the products and services to be sold are standard and present little differentiation, (iii) when buyers do not earn significant economic profits and (iv) when buyers are able to vertically integrate backward¹¹⁸.

Finally, it may be observed that the relationship between *suppliers* and *buyers* must not necessarily be competitive because it sometimes can also be cooperative. Examples can be found in the relationship of some Japanese automobile manufacturers, who keep long-range compromises with their suppliers and gain a stable partnership, high quality and a faster development of products¹¹⁹.

2.3.3 Generic Strategies

Porter (1980) identified three groups of “generic strategies” that enable firms to gain an above-average performance in an industry: cost leadership, differentiation and focus - this one with two variants: on costs or on differentiation¹²⁰ (figure 2.10). The first group refers to companies that compete through price strategies and consequently need low costs. The second group offers products with high quality, associated with a good image. The last generic group looks for offering good price or quality features, but concentrates on specific market niches¹²¹.

¹¹⁵ “Forward vertical integration” occurs when a supplier enters into and begins “to compete in a firm’s industry [...] and suppliers cease to be suppliers alone but become suppliers and rivals” (Barney, 2002: 96).

¹¹⁶ Ghemawat (2000: 41).

¹¹⁷ Barney (2002: 97-98).

¹¹⁸ In opposition to “forward vertical integration”, “backward vertical integration” occurs when “buyers become both buyers and rivals” (Barney, 2002: 98).

¹¹⁹ Ghemawat (2000: 42).

¹²⁰ The term “competitive strategy” also is frequently used as equivalent to “generic strategy”.

¹²¹ Porter (1989: 9-10).

		COMPETITIVE ADVANTAGE	
		Lower cost	Differentiation
COMPETITIVE SCOPE	Large target	1. Cost leadership	2. Differentiation
	Narrow target	3A. Focus on cost	3B. Focus on differentiation

Figure 2.10: Three generic strategies
Source: Adapted from Porter (1989: 10)

The positioning in one of these strategies can allow a firm to reach profitability over or below the average of its industry. So, a well-positioned firm is able to obtain high profit rates even if the industry structure is unfavorable and presents a low average profitability. Moreover, the competitive advantage through cost or differentiation depends on the industry structure and results from a firm's ability of dealing better with the five forces than its rivals¹²².

With a generic strategy of *cost leadership* a firm seeks to become the lowest cost producer in an industry. The "cost leaders" typically have a large scope and supply many branches, while the sources of low costs usually include economies of scale, patented technology, preferential access to raw materials and other factors. Low cost producers regularly sell a standard product and they place considerable importance in gaining "scale or absolute cost advantages from all sources"¹²³.

The main logic of a *differentiation* strategy is that firms acquire advantages against their rivals through the offering of better product attributes, which should present highly estimated values to the customers. *Differentiation* can be based on a variety of factors, such as the durability of a product, the delivery system, image attributes, etc.¹²⁴

The *generic strategy* of *focus* is based on choosing a narrow competitive environment within an industry. The firm selects a segment (or a group of segments) in the industry and seeks to gain a competitive advantage in this target-segment, either through a *cost* advantage (*focus in cost*) or through a *differentiation* advantage (*focus in differentiation*). These different choices

¹²² Porter (1989: 9-10).

¹²³ Porter (1985: 13).

¹²⁴ Porter (1989: 12).

aim at the exploration of distinct cost behaviors or special necessities of buyers in specific segments¹²⁵.

Porter advised that firms should choose one of these alternatives, which represent different ways for achieving a competitive advantage¹²⁶. The specific actions that are necessary for the implementation of each *generic strategy* vary depending on the different industries, as well as the feasible strategies within each particular industry. The idea of *generic strategies* requires that the necessary skills, organizational structure, incentive systems, corporate culture and leadership style to the success of a low cost firm are, basically, contrary to those of the differentiation strategy^{127,128}. These distinctions are also reflected in the concepts of “strategic group” and “mobility barrier”: while the former is “a group of firms in an industry following the same or a similar strategy along the [same] strategic dimensions”^{129,130} the latter concerns an obstacle to the change between *strategic groups*¹³¹. *Mobility barriers* are similar to *barriers to entry*¹³², but take effect on an intra-industry level. Typical *mobility barriers* are economies of scale, product differentiation and cost advantages independent of

¹²⁵ Porter (1989: 13-14).

¹²⁶ Porter (1989: 10).

¹²⁷ Ghemawat (2000: 65). For a short comparison of organizational requirements for implement each strategy, see Barney and Hesterly (2007: 152).

¹²⁸ According to Porter (1989: 14), firms that look for a mix of cost leadership and differentiation have few chances of gaining some competitive advantage because the competitors that follow exclusively one of these strategies are better positioned. Firms that are somewhere between these strategies - i.e. they are “stuck in the middle” - should achieve little profitability, unless the industry structure is favorable or their rivals follow these mixed strategies also. However, later studies have shown that a successful differentiation may allow a cost leadership in large markets, since “increased volume of sales can lead to economies of scale, learning, and other forms of cost reduction. So, successful product differentiation can, in turn, lead to cost reduction and a cost-leadership position” (Barney, 2002: 302). To further discussions and references about the effectiveness of these “hybrid” strategies, see Götze and Mikus (1999: 167-174), El-Kelety (2006: 41-42) and Barney and Hesterly (2007: 152-153).

¹²⁹ Porter (1980: 129). This author wrote also: “The concept of strategic groups is that firms within industries can be clustered according to their strategies, and that their reactions to disturbances and the pattern of rivalry will be determined by the configuration of groups” (Porter, 1981: 615).

¹³⁰ As examples of strategic dimensions, Hitt et al. (1999: 72) mentioned the “extent of technological leadership, the degree of product quality, pricing politics, the choice of distribution channels, and the degree and type of customer service”.

¹³¹ Porter (1981: 615)

¹³² See chapter 2.3.2.

scale¹³³. *Mobility barriers* can also explain differences of performance as well as of the stability of competitive advantage among firms in the same industry¹³⁴.

The concept of *generic strategies* changed the concentration on strategic planning to the comparison with the rivals in the same industry branch. As the competitive strategies of competitors are similar, their supplies are interchangeable in the customers' point of view, and this substantiates a special attention to the planning of competitive advantages¹³⁵. Porter argued that the *generic strategy* should be the core piece of a strategic plan. This strategy specifies a firm's fundamental method to look for the competitive advantage and supplies the context to decision-making in each functional area¹³⁶.

2.3.4 The Value Chain

Instead of examining sources of competitive advantage merely at the industry level, which is considered by the "five forces" and the "generic strategies" models, Porter also offered a framework to identify sources of competitiveness within firms: the generic "value chain", in which a firm is seen as a chain of value-adding activities (figure 2.11)^{137,138}.

According to Porter, the competitive advantage has its origin in the various activities a firm executes¹³⁹. The way such activities are performed contributes to the strategies of costs and / or differentiation and, thus, these activities become sources of competitive advantage¹⁴⁰. The *value chain* allows deconstructing a firm into its strategic relevant activities, in order to

¹³³ Barney (2002: 140).

¹³⁴ Porter (1981: 615). Welge and Al-Laham (2008: 344) affirmed that the analysis of strategic groups has an intermediate function between the observation of the branch as a whole and each individual competitor.

¹³⁵ Kühn and Grünig (2000: 138).

¹³⁶ Porter (1989: 22). In this text this author also criticized the processes of strategic planning that consist of "Increase-Hold-Harvest" recommendations (chapter 2.2.4), which should not be defined as strategies, but as outcomes of generic strategies.

¹³⁷ Götze and Mikus (1999: 35). The McKinsey and Company had already developed, before Porter, a generic model of a value chain, which reflected the tendency of consulting companies (and their customers) in the 70's in dividing firms in distinct activities, in order to a better management of them (Ghemawat, 2000: 62, Barney, 2002: 159). However, the McKinsey's concept (1) approaches "functions", and not activities, (2) does not differentiate types of activities, (3) does not show how these are related to each other, as well as (4) is not related both to competitive advantage and competitive scope (Porter, 1989: 55-56).

¹³⁸ According to Porter (1989: 34), "value" is how much buyers are willing to pay for what a company offers to them, and a firm is profitable if the value it adds surpasses the costs that are involved in a product's creation.

¹³⁹ Porter (1989: 31).

¹⁴⁰ Porter (1989: 36).

enable a more detailed understanding of the behaviors of costs and of differentiation potentials. Firms of an industry own comparable, but not identical, *value chains*, which depend on each firm's history and strategies. Accordingly, differences among rivals' *value chains* can represent sources of competitive advantage¹⁴¹.

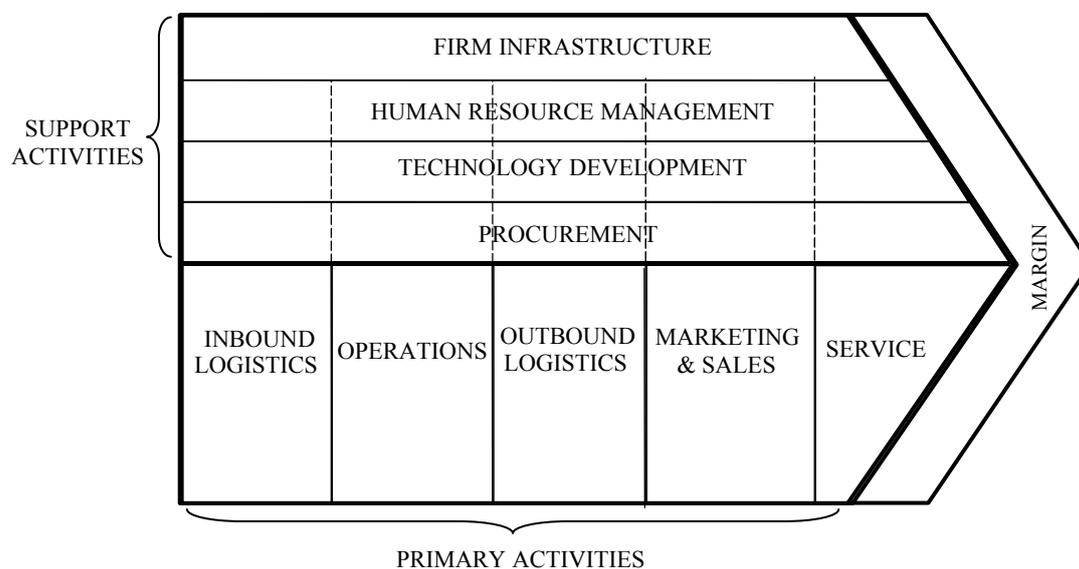


Figure 2.11: The generic Value Chain
Source: Porter (1985: 37)

Porter divided the activities of a firm into nine generic categories, which are classified into two major groups: *primary* and *support* activities. *Primary* activities concern the creation of products, their sale and transfer to the customer and their post-sale assistance and comprise “inbound” and “outbound” logistics, “operations”, “service” and “marketing and sales”. *Support* activities assist the *primary* activities and themselves by providing supplies, technology, human resources and other functions to the firm¹⁴². Figure 2.11 intends to represent that profit margins are the result of the way a *value chain* is managed¹⁴³.

The analysis of the *value chain* should also include an assessment of the relationships between the internal activities and those of suppliers and buyers, in order to improve the existing interfaces. Thus, the optimization of the entire value chain through partnerships should increase the competitive advantage of the whole “Value System”¹⁴⁴ (figure 2.12).

¹⁴¹ Porter (1989: 30-34).

¹⁴² Porter (1989: 34).

¹⁴³ Mintzberg et al. (2000: 85).

¹⁴⁴ Porter (1989: 30-48).

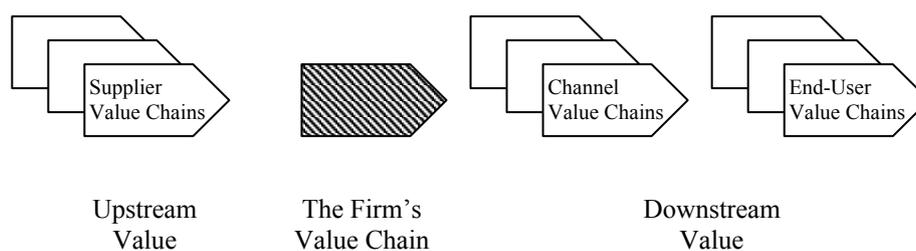


Figure 2.12: The Value System
Source: Adapted from Porter (1991: 103)

A firm's activities were recognized by Porter as the "basic unit[s] of competitive advantage"¹⁴⁵, although this author assumed that a firm's success (or profitability) is a direct function of the attractiveness of the industry and the firm's relative position in that industry¹⁴⁶. With the competitive strategy and scope defined, the configuration of activities should then be accordingly analyzed and adapted with the help of the *value chain*¹⁴⁷.

Porter's *generic strategies*, *five-forces* and *value chain* are associated with the "positioning school" identified by Mintzberg (1990). They brought an economical view to the strategy formulation and represented a new wave in the evolution of strategy research and practice.

2.3.5 Criticism on the MBV

The work of Porter (and the MBV, consequently) has been criticized by several voices, especially because of the lack of consideration of issues such as the internal structure, resources configuration and the behavioral dimension as further possible factors of success¹⁴⁸.

The main idea of the SCP paradigm - a firm's performance depends fundamentally on the industry structure and on the firm's positioning - was confirmed by some researchers (e.g. Schmalensee, 1985), but more recent works in the field (e.g. Hansen and Wernerfelt, 1989, Rumelt, 1991, Mauri and Michaels, 1998) indicated that performance differences of firms within an industry may occasionally be more influenced by firms' internal than external

¹⁴⁵ Porter (1991: 102).

¹⁴⁶ Porter (1991: 99-100).

¹⁴⁷ Porter (1991: 102).

¹⁴⁸ Rühli (1995: 93-94), Koruna (1999: 15), Spanos and Lioukas (2001: 924). A more extensive critique about the whole work of Porter was presented by Aktouf et al. (2005).

factors (concerning industry structure)¹⁴⁹. Among others, the following reasons can be given for that:

- The MBV explains the differences in firms' performance within a branch mainly through the *five forces* and the *generic strategies*¹⁵⁰. These models put the focus "clearly on phenomena at the industry level"¹⁵¹, while the intra-organizational processes are only considered at a secondary level (by the *value chain*)¹⁵².
- The differences among firms are reduced to differences in size and positioning, without considering what happens within the organizational borders, what is typical of the neo-classical view of an organization, where firms are seen as systems of transforming supplies in products¹⁵³.

Since only external analyses are used to evaluate a firm's competitive position, the research on the MBV places little emphasis on the idiosyncratic features of a firm and adopted two simplifying hypotheses¹⁵⁴: First, the MBV's "environmental models"¹⁵⁵ assume that firms in an industry (or within a *strategic group*) are similar regarding the resources they control - there is resource homogeneity. Second, it is assumed that, if there is some resource heterogeneity in an industry (or *strategic group*) and this heterogeneity leads to superior performance, rivals will soon acquire similar resources and the competition will become balanced¹⁵⁶. This argumentation is refused by the Resource-based View, which considers the heterogeneity and immobility of resources as sources of superior competitive advantage¹⁵⁷.

¹⁴⁹ Mintzberg et al. (2000: 91). For further studies on this discussion, see e.g. McGahan and Porter (1997) and Spanos and Lioukas (2001).

¹⁵⁰ According to Foss (1997a: 7), "the extremely successful five forces framework proposed by Michael Porter in 1980 was wholly oriented towards industry analysis, and had really next to nothing to say about firm's strengths and weaknesses".

¹⁵¹ Collis and Montgomery (1995: 121).

¹⁵² Vasconcelos and Cyrino (2000: 24). Similarly, Rühli (1995: 94) commented that the MBV is identified as a strong rational-economic view, which neglects organizational, behavioral and social related models to explain the strategic behavior of firms.

¹⁵³ Vasconcelos and Cyrino (2000: 25-26).

¹⁵⁴ Barney (1991: 100).

¹⁵⁵ Barney (1991: 100).

¹⁵⁶ Barney (1991: 100). It is assumed that resources are usually available in *factor markets* (Barney, 1986a) - they have "mobility".

¹⁵⁷ Barney (1991: 101).

2.4 The Resource-based View

The divergences of many scholars on the ideas of the Market-based View paved the way for a different approach - the “Resource-based View” (RBV) - which considers the efficient use of rare, valuable resources as the main source of a superior economic performance¹⁵⁸. Unlike the “structure-conduct-performance” (SCP) paradigm, the research on the RBV presents a format of “resource-conduct-performance” (figure 2.13).

The Market-based View: <i>structure-conduct-performance</i> paradigm	The Resource-based View: <i>resources-conduct-performance</i> paradigm
<i>Structure</i> : The firms choose market branches and strategic groups through the building of business units and divisions. The structure of these markets and groups defines the possibilities of achieving profits.	<i>Resources</i> : The firms obtain unique resources during their development, due to luck or to intended procedures. Such resources are not shared with competitors.
<i>Conduct</i> : The firms use these possibilities through selecting a competitive strategy and the building of the necessary resources.	<i>Conduct</i> : The use of these resources to provide offers demanded by specific market branches leads to sustained competitive advantage.
<i>Performance</i> : Long-range differences of performance are explained through the attractiveness of the selected market branches and groups, as well as the competitive strategy.	<i>Performance</i> : Long-range differences of performance are explained through using of unique resources to provide demanded offers.

Figure 2.13: The Market- and the Resource-based View
Source: Kühn and Grünig (2000: 142) (translated)

Research on the RBV had become a major area in strategic management and is divided into two major “schools”¹⁵⁹, which attend to different matters but, although conflicting in some of their ideas, share some assumptions. The following sections summarize the RBV’s main foundations and discuss its two major approaches.

2.4.1 Historical Origins

Although the RBV may be considered a recent research stream “it is in reality firmly rooted in older, classical work on firms and firm strategies”¹⁶⁰, namely the recognition of firms as a

¹⁵⁸ In the literature the Resource-based View (RBV) is also referred to by the terms “Resource-based Theory” (RBT) or “Resource-based Perspective” (RBP). According to Schulze (1994: 130), “the term “resource-based” indicates a focus on the set of resources and capabilities which are employed to create and support a competitive advantage”.

¹⁵⁹ Schulze (1994), Foss (1997a: 15). For a proposal of five phases in the evolution of the RBV, see Freiling (2000).

¹⁶⁰ Foss (1997a: 7).

bundle of resources, the existence of firms' *distinctive competences* and the understanding of *Ricardian Rents*¹⁶¹.

Ricardo (1817) observed that owners of fertile lands for growing wheat always obtained economic rents under a given market demand, because they had lower costs than owners of less fertile lands¹⁶². As the quantity of fertile land cannot be expanded (it is fixed - or "*inelastic in supply*"¹⁶³), fertile land is a unique, valuable resource, which results in economic returns - the *Ricardian Rents*¹⁶⁴. In competitive terms, these rents are related to resources that cannot be imitated or substituted by a rival with the same performance, like a plant's location, a patent or the exclusive access to a source of raw materials.

The idea of "distinctive competences" was developed by Selznick (1957)¹⁶⁵. When developing a sociological analysis of institutional leadership in organizations, he concluded that institutional leaders create an organizational vision, which, in combination with the organizational structure, defines a "firm's *distinctive competences* - those activities that a particular firm does better than any competing firms"¹⁶⁶. Selznick did not develop an analysis of the performance implication of *distinctive competences*; however, it is important to consider that the ability of senior managers (i.e. the institutional leaders) in building these competences can be a source of competitive advantage¹⁶⁷.

¹⁶¹ Foss (1997a: 11), Barney (2002: 155). Unlike most of the literature, Fahy and Smithee (1999: 2) suggested that the first acknowledgement of the importance of firm-specific resources is to be found in the work of economists such as Chamberlin (1933) and Robinson (1933).

¹⁶² Ricardo's work focused "on the economic consequences of owning land" (Barney, 2002: 152) and analyzed the competitive behavior among land owners under different conditions of demand and land fertility (Peteraf, 1993: 180-181, Barney, 2002: 152-154).

¹⁶³ Barney (2002: 154).

¹⁶⁴ These rents "are ordinarily thought of as accruing to owners of unique factors" (Montgomery and Wernerfelt, 1988: 624). *Ricardian Rents* may be understood as those originated from the exclusive ownership of certain assets (Proença, 2003: 15).

¹⁶⁵ Other researches about "distinctive competences" were developed in the Harvard Business School before Selznick's work, but they attended specifically to the role of the quality of general managers in achieving a firm's performance (Barney, 2002: 151).

¹⁶⁶ Barney (2002: 152). Hall (1992: 139) defined similarly that *distinctive competencies* "are those capabilities which the organization possesses which set it apart from its competitors". Another not so restrict explanation was given by Andrews (1997: 56), who wrote that *distinctive competence* is what an organization can do "particularly well". Similar was stated by Dosi et al. (2000: 5): "the idea that an organization tends to be good at some particular thing (if anything) has long been referenced by the term 'distinctive competence'".

¹⁶⁷ Barney (2002: 152).

The most cited fundament of the RBV emerged when Edith Penrose (1959) found a cause for explaining the diversification of firms in the heterogeneity of their resources¹⁶⁸. In order to exploit opportunities in the markets, firms develop unique products, which, in turn, require the deployment of unique resources. With the aim of improving their use, firms look continuously for higher levels of efficiencies, which reduce costs and prices and make possible to offer new products and / or to expand to other markets. As a result, firms continuously bring innovation to the market and cause a permanent disequilibrium within it. In this context, the firms with higher levels of efficiency gain better competitive conditions and better profits¹⁶⁹. In contrast to neoclassical microeconomics, which is the basis of the MBV and sees firms as a function of production¹⁷⁰, Penrose defined firms as “a collection of resources bound together in an administrative framework”¹⁷¹. The heterogeneity of these resources gives each firm its unique characteristics¹⁷² and, thus, their occasional competitive advantages. Penrose anticipated also a main assumption of the RBV: “The point of origin for the plans of any firm is circumscribed by the firm’s resources and by the services they can render”¹⁷³.

After Penrose’s work, the idea of firms as a bundle of resources was rarely discussed¹⁷⁴, until the publishing of “A Resource-based View of the Firm” (Wernerfelt, 1984), where the author deployed structured ideas to link the strategy of diversified firms to the set of resources they own (or can acquire). He introduced also the concept of “resource position barriers”, which are analog to “entry barriers” of the MBV. After this work, other scholars developed the RBV, linking economics and sociologic theories to explain the competitive advantages of firms^{175,176}.

¹⁶⁸ The emphasis of Penrose’s work was concentrated on the limits and opportunities that the resources set to firms’ expansion (Vasconcelos and Cyrino, 2000: 26).

¹⁶⁹ Foss (1997a: 11), Mintzberg et al. (2000: 202), Vasconcelos and Cyrino (2000: 26).

¹⁷⁰ Barney (1997: 154), Vasconcelos and Cyrino (2000: 26).

¹⁷¹ Penrose (1995: ix).

¹⁷² Penrose (1995: 75).

¹⁷³ Penrose (1995: 86).

¹⁷⁴ Wernerfelt (1984: 171).

¹⁷⁵ Bandeira-de-Mello and Cunha (2001: 2). Sociologic theories are applied especially by the *process school* (chapter 2.4.3.2) to study the nature of the organizational change and the internal processes of adaptation, innovation and learning, using preferentially qualitative methods with the aim of understanding and explaining, in its context, the nature and dynamics of processes of organizational change (Vasconcelos and Cyrino, 2000: 21).

2.4.2 Classification and Terminology

As the foundations of the RBV were simultaneously developed by several authors in the beginning of the 90's, they applied distinct terminologies to similar objects of study. Such differences were replicated (and even expanded) in further works, as the RBV was being deployed. Thus, a critical aspect of literature is to understand the equivalence of the applied terms, especially “resource”, “capability” and “competence”, which may frequently refer to similar attributes¹⁷⁷.

Basically, there are two main interpretations of the term “resource”¹⁷⁸. On the one hand, there is a “wide” meaning that concerns a higher-leveled term used to refer to all firm attributes. Recently a prominent author of the RBV defined firm “resources” as:

*“all assets, capabilities, competencies, organizational processes, firm attributes, information, knowledge, and so forth that are controlled by a firm and that enable the firm to conceive of and implement strategies designed to improve its efficiency and effectiveness”*¹⁷⁹.

On the other hand, with a “narrow” meaning, *resources* regard only individual attributes. The following statement explains the relationship between resources and capabilities in this context¹⁸⁰:

“Resources are inputs into the production process [...] The individual resources of the firm include items of capital equipment, skills of employees,

¹⁷⁶ Wernerfelt (1995: 171) observed that just in 1989 his work started to have impact: “When the paper appeared in 1984, it was ignored. [...] In 1984-1987 the paper had a grand total of three citations; two by my doctoral students and one by a colleague”.

¹⁷⁷ Foss (1997b: 346). This author wrote also that the RBV “is characterized by a certain amount of terminological confusion” (Foss, 1997a: 8). Some scholars try to establish an equivalence of terms to guide the research (see e.g. Sanchez et al., 1994: 7-10, Nanda, 1996, Teece et al., 1997: 516 and Freiling, 2002a), however it is not observed a convergence in the applied terminology, since the recent works usually observe references from the RBV beginning, where the differences came up.

¹⁷⁸ Bürki (1996: 67).

¹⁷⁹ Barney (2002: 155). For an explanation about the specific meaning of “resource” in microeconomics, environmental economics and production, see Freiling (2002a: 5-6) and Mikus (2003: 219).

¹⁸⁰ Although differences may be found between the meanings of “capability” and “competence”, these are often considered as similar terms (Barney, 2002: 157). As a rule in this work, both terms will be assumed as similar ones and used interchangeably. For a differentiation between “capability” and “competence”, see Mikus (2003: 222).

patents, brand names, finance, and so on. [...] A capability is the capacity for a team of resources to perform some task of activity^{181,182}.

A firm's capabilities are not groups of resources: they "involve complex patterns of coordination between people and between people and resources"¹⁸³. Capabilities might possibly be understood through the concept of "organizational routines", which are "regular and predictable patterns of activity, which are made up of a sequence of coordinated actions by individuals. A capability is, in essence, a routine or a number of interacting ones"¹⁸⁴.

The use of the "wide" or the "narrow" meaning of *resources* within the RBV is related to the matter of research. On the one hand, many scholars are interested in the study of given firm attributes, independent on which level of aggregation they belong to - in this case, the term "resources" may be applied from individual objects up to large cross-functional capabilities ("wide" sense). On the other hand, some researchers are specifically interested in studying a firm's capabilities, requiring a specific differentiation if some attributes are, for example, "resources", "capabilities" or even "core competences" ("narrow" sense)^{185, 186}. Such differences will be clear in the next chapters.

For the purpose of their identification, *resources* (in the "wide" sense) may be classified through several ways. For instance, Barney proposed four categories¹⁸⁷: *financial capital* (all monetary resources a firm "can use to conceive of and implement strategies"), *physical*

¹⁸¹ Grant (1991: 118-119). This author complemented also that "capabilities of a firm are what it can do as a result of resources working together" (Grant, 1991: 120). The term "capability" has been applied with diverse meanings in the management literature. Some common ones are related to "be capable of doing something" and to "a potentiality that may be developed". The present work adopts the former one, which is closer than the latter to the quoted definition of Grant.

¹⁸² For an assessment of this and other definitions within the RBV, see Freiling (2002a).

¹⁸³ Grant (1991: 122). Barney (2002: 157) defined that firm's *capabilities* "include only those internal firm attributes that enable a firm to coordinate and exploit its other resources".

¹⁸⁴ Grant (1991: 122). Barney (2001: 646-647) explained that "Routines are an example of firm resources and capabilities. Indeed, if one adopts the definition of capabilities as the ability of firms to use their resources to generate competitive advantages, then the definitions of routines and capabilities are virtually indistinguishable".

¹⁸⁵ A "core competence" is a special case of "competence", which will be discussed in chapter 2.4.3.2.1. For some classifications of "competence", see Mikus (2003: 238-243).

¹⁸⁶ With a critique statement, Barney (2002: 157) did not see much usefulness to this separation in the practice: "it seems unlikely that a debate about whether a particular firm attribute is a "resource", a "capability" or a "competence" will be of much value to managers of firms".

¹⁸⁷ Barney (2002: 156). Several other classifications are found in the literature. For other examples, see Grant (1991) and Hall (1992).

capital (“the physical technology used in a firm, a firm’s plant and equipment, its geographic location, and its access to raw materials”), *human capital* (“training, experience, judgment, intelligence, relationships, and insight of individual managers and workers in a firm”) and *organizational capital* (“a firm’s formal reporting structure [...], its formal and informal planning, controlling, and coordinating systems; and its culture and reputation; as well as informal relations among groups within a firm and between a firm and those in its environment”).

2.4.3 The two Schools of the RBV

The works of the RBV may be divided in two main streams of research, namely the “structural” and the “process” schools. Initially, the first one will be presented, which offered the main foundations on which the RBV was built. Thereafter, important discussion of the *process* school will be summarized, and finally a comparison of both streams will be outlined.

2.4.3.1 The *Structural* School

The RBV was developed in the 80’s (especially by Wernerfelt, 1984, Barney, 1986a, 1986b, and Dierickx and Cool, 1989); however, just with the frameworks published by Barney (1991) and Peteraf (1993), the RBV presented a more concrete “face”¹⁸⁸. On the one hand, Peteraf (1993) offered a framework with four conditions that resources must meet to allow yielding a sustained competitive advantage¹⁸⁹. On the other hand, Barney (1991, 2002) presented the VRIO, which is a central RBV concept. The contribution of both authors will be summarized below, starting with Peteraf’s four “cornerstones of competitive advantage”.

¹⁸⁸ According to Foss and Knudsen (2003: 292), these works of Barney (1991) and Peteraf (1993) are “the two most quoted and authoritative summary statements of the RBV”. Other much cited works of the RBV’s emergence were those presented by Rumelt (1984), Montgomery and Wernerfelt (1988) and Wernerfelt (1989). The works of the RBV are especially supported by the ideas concerning *Ricardian rents*, *distinctive capabilities* and “firms as bundles of resources” (see chapter 2.4.1), and also on other works that offered useful discussions, like Chandler (1962), Demsetz (1973), Hofer and Schendel (1979), Lippman and Rumelt (1982), Nelson and Winter (1982), and Itami (1987).

¹⁸⁹ This structure represents the “perhaps most systematic exposition of a resource-based perspective on the conditions for sustained competitive advantage” (Foss, 1997a: 9). For a comparison of different sets of attributes in the RBV literature, see Carneiro et al. (1999).

2.4.3.1.1 The Cornerstones of Competitive Advantage

2.4.3.1.1.1 Resource Heterogeneity

A fundamentally different assumption between the RBV and the MBV is that, in order to gain sustained competitive advantage, the RBV does not accept that firms in an industry must be homogeneous regarding the resources they own¹⁹⁰. If there is homogeneity of the resources necessary to implement a successful strategy, this strategy can later be followed by the firm's rivals and, therefore, the existing above-normal rents will be dissipated. By contrast, if the most efficient resources are "fixed" - they cannot be acquired - their owners gain higher rents than owners of less efficient resources, due to *Ricardian rents*¹⁹¹. Thus, if there is heterogeneity of resources among an industry's firms, it is possible that resources are sources of competitive advantage. However, these resources need also to meet other conditions, which will be explained in the following.

2.4.3.1.1.2 *Ex post* Limits to Competition

After gaining a competitive advantage a firm should preserve the corresponding resources heterogeneity, in order to protect the sources of the resulting rents¹⁹². The attributes that protect resources of imitation or substitution by competitors are known as "isolating mechanisms", which represent a crucial matter in the research of the RBV¹⁹³ and consist of two major attributes: *imperfect imitability* and *imperfect substitutability*.

¹⁹⁰ Barney (1991: 100-101). With the same idea, Foss (1997a: 6) argued that "firms have to be different in some way in order to obtain a competitive advantage". Schoemaker (1990: 1187) also questioned "If all players are identical (in skills, resources and know-how), on what basis can they compete?"

¹⁹¹ Peteraf (1993: 182). Although *Ricardian rents* are associated with resources that are *fixed* in supply, *quasi-fixed* resources are more common and have greater importance for this heterogeneity analysis. Such resources are those that "may be renewed and expanded incrementally within the firm that utilizes them" (Peteraf, 1993: 181).

¹⁹² Peteraf (1993: 182) explained that "Since strategists are primarily concerned with rents over a longer term, the condition of heterogeneity must be relatively durable to add value".

¹⁹³ Mahoney and Pandian (1992: 371), Vasconcelos and Cyrino (2000: 28). Rumelt (1997: 141) defined *Isolation mechanism* as "the phenomena that limit the ex post equilibration of rents among individual firms". Examples and comparisons of *isolating mechanisms* were presented by Mahoney and Pandian (1992: 372) and Peteraf (1993: 183). The *state-of-art* of the discussion on *isolation mechanisms* can be found in Freiling (2001).

Imperfect Imitability

A firm's competitive advantage cannot be sustained if rivals are able to acquire the same resources to imitate the successful strategy. Barney defined some conditions that make resources *imperfectly imitable*: unique historical conditions, causal ambiguity and social complexity¹⁹⁴.

Individual *historical conditions* of firms can be responsible for explaining their competitive advantage, because some resources, like organizational culture, are developed only along a firm's history, and thus cannot be obtained by rivals¹⁹⁵. Examples are the building of a plant in a land of little value, which became later more valuable for logistic questions, or the use in the past of political decisions, which is no longer possible to would-be-competitors.

*Causal ambiguity*¹⁹⁶ happens when the relationship among a firm's resources and its competitive advantage is not (or is only partially) understood, and consequently avoids the imitation of resources. Apart from being merely a protection against possible rivals (since they do not exactly know what to imitate¹⁹⁷), *causal ambiguity* avoids that the resources' owners lose the knowledge of the connections between their superior resources and their performance, as it may happen in the case of hiring of employees¹⁹⁸.

Three reasons can explain why the relationship between resources and the corresponding competitive advantages is not always understood¹⁹⁹: First, managers are unaware of organizational characteristics that create competitive advantage, because these attributes are taken for granted in the firm's day to day operations. Second, managers can possibly enumerate many factors (resources) that create competitive advantages, but do not precisely appoint which of these factors are related to the competitiveness. Third, sometimes it is not an individual resource, but a bundle of them, that are responsible for creating competitive

¹⁹⁴ Barney (1991: 107-110).

¹⁹⁵ Barney (1986b). The term "path dependence" is associated with competitive advantages, which are built through acquiring and developing resources in earlier periods. Barney (2002: 167) explained that a "process is said to be path dependent when events early in the evolution of a process have significant effects on subsequent events". Dierickx and Cool (1989: 1507) used the term "time compression diseconomies" for this discussion.

¹⁹⁶ Lippmann and Rumelt (1982).

¹⁹⁷ Peteraf (1993: 183).

¹⁹⁸ Barney (1991: 109).

¹⁹⁹ Barney (2002: 167-168).

advantage. In this case, what protects resources from imitation are “complex networks of relationships between individuals, groups, and technology”²⁰⁰. As the knowledge about a firm’s products, processes and customers is diffused within a firm, its competitors have difficulties to understand such factors. For this reason, knowledge is considered an important type of resource, which is difficult by a would-be-competitor to imitate²⁰¹.

Another reason that protects resources from being imitated is *social complexity*, which concerns resources that represent “very complex social phenomena, beyond the ability of firms to systematically manage and influence”²⁰². Examples are organizational culture and interpersonal relationships among managers. Although the relationships between these “socially complex” resources and the competitive advantage can sometimes be understood, it is very difficult to imitate them, because they cannot be directly managed²⁰³.

Imperfect Substitutability

The use of *imperfectly substitutable* resources is another factor that protects a firm’s competitive advantage. Substitution can take two different forms²⁰⁴: first, although some efficient resources cannot be imitated, would-be-competitors can be able to substitute them for *similar* resources that allow the implementation of the same strategies. As an example Barney cited a “high quality top management team”²⁰⁵ - a kind of resource. Although this one cannot be exactly imitated, a team that provides similar performance can possibly be built by a rival, if it is necessary to implement a certain successful strategy²⁰⁶.

The second form of substitution occurs by using *strategically equivalent substitutes*²⁰⁷, which are completely different resources, but that enable a firm to implement the to-be-copied strategy. This can be related to organizational processes²⁰⁸, but this kind of

²⁰⁰ Barney (2002: 168).

²⁰¹ Barney (2002: 168-169).

²⁰² Barney (1991: 110).

²⁰³ Peteraf (1993: 183), Barney (2002: 169-170).

²⁰⁴ Barney (1991: 111).

²⁰⁵ Barney (1991: 111).

²⁰⁶ Of course, if a “high quality top management team” can be owned by many rivals in an industry, it does not also meet the condition of resources heterogeneity (chapter 2.4.3.1.1.1).

²⁰⁷ Barney (1991: 111).

²⁰⁸ Like the resources that provide a clear vision of the future. In one firm, this vision can be reached by a leader, in another one through strategic planning processes (Barney, 1991: 111).

substitution is especially threatening manufacture-related strategies due to fast technological changes, which offer constantly new technologies and skills that can be applied to substitute superior resources²⁰⁹.

2.4.3.1.1.3 Imperfect Resource Mobility

Another necessary condition that resources must meet to enable the gain of sustainable competitive advantage is that their transferability among firms is difficult or even impossible to be accomplished. If such resources cannot be traded or have lower values to different owners than the current one, these resources are *imperfectly mobile* and can be sources of competitive advantage²¹⁰.

Resource immobility can occur for many reasons²¹¹, for example, due to difficulties in defining property rights, idiosyncratic characteristics (the resource has no utility to another owner than the present), a lower value to eventual buyers (what is also connected to *switching costs*²¹² or *transaction costs*²¹³) or *cospecialized assets*²¹⁴ (resources that are only of avail - or have a higher value - when they are applied together with other resources, which cannot be traded together²¹⁵). Examples of imperfect mobile resources, which are often intangible, are a firm's image, the organizational culture and relationships with customers and suppliers²¹⁶.

2.4.3.1.1.4 Ex ante Limits to Competition

Ex ante limits to competition are also necessary to yield a position of sustainable competitive advantage²¹⁷. Barney developed the idea that a firm's economic performance depends not only on the returns of a strategy, but also on the costs of acquiring resources to implement

²⁰⁹ Rasche and Wolfram (1994: 506).

²¹⁰ Peteraf (1993: 183-184), Vasconcelos and Cyrino (2000: 28).

²¹¹ Peteraf (1993: 183-184).

²¹² Montgomery and Wernerfelt (1988).

²¹³ Rumelt (1987).

²¹⁴ Teece (1986).

²¹⁵ Peteraf (1993: 183-184), Carneiro et al. (1999: 7).

²¹⁶ Mikus (2003: 227).

²¹⁷ Peteraf (1993: 185).

this strategy²¹⁸. In *perfect factor markets*²¹⁹ there is a precise expectation with regard to the profits of future strategies, and the costs of the necessary resources are influenced by their value after implementing the strategy. Consequently, possible above-normal returns to be expected are shared among resources suppliers and buyers. However, in *imperfect factor markets* there are different expectations of the future value of necessary strategic resources and these can possibly be acquired for underestimated values, allowing the strategy implementers to gain above-normal returns²²⁰. In this case, the sources of competitive advantage cannot be only the acquired resources, but also better information than the rivals and suppliers on resources and their future value, which, in turn, reduces the cost of implementing a strategy²²¹.

However, *imperfect factor markets* are only related to tradeable resources, while other ones can only be accumulated in the course of a firm's history (like reputation) giving them unique and specific characteristics that can be sources of competitive advantage. In this case, *ex ante* limits to competition exists when there is an *incomplete* market to certain resources²²².

Peteraf's four conditions (figure 2.14) are summarized with this statement about their effects:

“Resource heterogeneity creates Ricardian or monopoly rents. Ex post limits to competition prevent the rents from being competed away. Imperfect factor mobility ensures that valuable factors remain with the firm and that the rents

²¹⁸ Barney (1986a: 1232).

²¹⁹ Barney (1986a). A (strategic) factor market is “a market where the resources necessary to implement a strategy are acquired” (Barney, 1986a: 1231).

²²⁰ Competitors that intend to acquire these valuable resources would later need to pay a higher price since the concerning factor market becomes “perfect”. Thus, they would not gain the above-normal returns anymore.

²²¹ Barney (1986a). Consequently, “a necessary condition for a resource to yield rent to its owner is that the resource in question is acquired at a price that is below the expected value of the resource” (Foss, 1997b: 350). Barney (1986a: 1234) commented that even “luck” may play a role in acquiring resources less costly than their future value.

²²² Dierickx and Cool (1989: 1504-1506), Barney (1989), Vasconcelos and Cyrino (2000: 29). The argument of *incomplete markets* also concerns the historical conditions of *imperfect imitability*. In fact, the argumentation concerning *imperfect imitability* and *imperfect substitutability* seems often quite similar.

are shared. *Ex ante* limits to competition keep costs from offsetting the rents²²³.

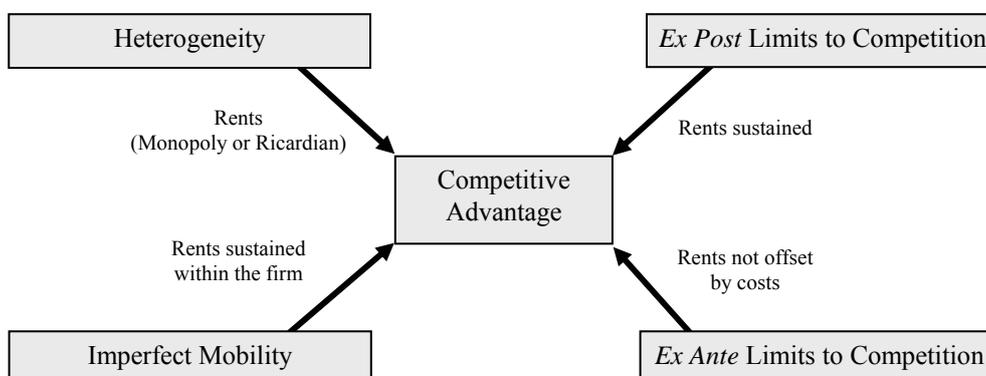


Figure 2.14: The cornerstones of competitive advantage
Source: Peteraf (1993: 186)

The arguments behind these four conditions of Peteraf are in strong resonance with the assumptions of Barney's (2002) framework, which has another structuring and will be described below²²⁴.

2.4.3.1.2 The VRIO Framework

Barney (1991) was the first to develop a set of conditions to identify the sources of competitive advantage under the assumption that "firm resources may be heterogeneous and immobile"²²⁵. Such conditions specify how a resource must be in order to "hold the potential of sustained competitive advantage"²²⁶: it must be *valuable*, *rare*, *imperfectly imitable* and *imperfectly substitutable*. These conditions were also considered within Peteraf's work, although the first (*valuable*) was not explicitly discussed, which concerns a firm's strengths. If a resource is not valuable, it "will not enable a firm to choose or implement strategies that

²²³ Peteraf (1993: 185). Against accusations that the RBV is much "introspective", Foss (1997a: 11) observed that the environment is involved in these four conditions and "it only makes sense to talk about heterogeneity in the context of an environment of other firms".

²²⁴ Both authors confirmed this resemblance of their frameworks (see Peteraf and Barney, 2003: 317).

²²⁵ Barney (1991: 105).

²²⁶ Barney (1991: 105).

exploit environmental opportunities or neutralize environmental threats. [...] These types of resources are weaknesses”²²⁷.

This initial set of four attributes was improved and later presented by Barney in the “VRIO Framework” (figure 2.15), which includes, also as necessity to gain competitive advantage, the firm’s *organization* (O) in exploiting the competitive potential of its valuable (V), rare (R) and imperfectly imitable/substitutable (I) resources. *Organization* implicates, for instance, adequate organizational forms, reporting structures and control systems²²⁸.

Is a resource or capability...						
Valuable?	Rare?	Costly to imitate?	Exploited by organization?	Competitive implications	Economic Performance	Strength or weakness
No	-	-	No	Competitive disadvantage	Below Normal	Weakness
Yes	No	-	↑ ↓	Competitive parity	Normal	Strength
Yes	Yes	No		Temporary competitive advantage	Above normal	Strength and distinctive competence
Yes	Yes	Yes	Yes	Sustained competitive advantage	Above normal	Strength and sustainable distinctive competence

Figure 2.15: The Relationship between the VRIO and Organizational Strengths and Weaknesses
 Source: Adapted from Barney (2002: 173-174)

Barney appointed Caterpillar, Wal-Mart and Dell Computer as firms that are organized to exploit the potential of value, rare and imperfectly imitable resources, what did not happen to Xerox in the 70’s when it developed many technological innovations (like the computer mouse) that were not translated into products due to organizational failures²²⁹.

2.4.3.1.3 The *Static* Approach

The ideas structured by Barney (1991, 2002) and Peteraf (1993) were primarily inspired by economics²³⁰ and served as a basis on which most of the RBV work was built, especially on strategy content research, in topics like the influence of market conditions on a firm’s

²²⁷ Barney (2002: 173). In his models, Barney (1991, 2002) always related these conditions to firms’ “strengths” or “weaknesses”, in order to keep these definitions associated with the SWOT Analysis.

²²⁸ Barney (2002: 172).

²²⁹ Barney (2002: 171-176).

²³⁰ Foss (1997a: 15).

performance and diversification²³¹. Some of these researches aim at accounting for inconsistencies in the MBV strategic assumptions²³², however, the majority of the RBV works are developed to refine, complement and extend the MBV and other economic models of strategic conduct²³³.

Some limitations, however, have been observed and attributed to the economic background of those early RBV works, especially concerning conditions of the equilibrium of the markets²³⁴. In accordance with neoclassical economics, these works consider “economic activity as occurring within efficient markets whose parameters of behavior are presumed to be known or, at least, knowable”²³⁵. Thus, the market is assumed as a *static* system where conditions of supply and demand remain in relative equilibrium and firms should identify and exploit their potential superior resources in order to improve their competitive position²³⁶. Barney recognized a limitation here, namely that this RBV approach is helpful “only as long as the rules of the game in the industry remain relatively fixed”²³⁷, and so the resources related to competitive advantage should be constantly altered in “Schumpeterian”²³⁸ or hypercompetitive environments²³⁹. Vasconcelos and Cyrino also mentioned that in changing environments the dependence of *static* resources generates risks, such as the “overspecialization”²⁴⁰ or “core rigidities”²⁴¹ of resources and capabilities²⁴².

²³¹ According to Foss (1997a: 11), “Diversification studies may arguably be where the resource-based approach has had the greatest impact. The commonly accepted theory of diversification is roughly the resource-based theory”.

²³² Schulze (1994: 141).

²³³ Schulze (1994: 144).

²³⁴ Foss (1997b: 354), Vasconcelos and Cyrino (2000: 29-30). Regarding “equilibrium”, Foss (1997b: 354) defined that “in its simplest version, equilibrium simply means equality between supply and demand at a given point of time”.

²³⁵ Schulze (1994: 134).

²³⁶ Schulze (1994: 134). According to Foss (1997a: 15), the interest of these works is to clarify and examine the conditions that must be obtained “in order for resources to yield rents in equilibrium”.

²³⁷ Barney (2002: 183).

²³⁸ Jacobson (1992: 787). He refers to the work of the Austrian economist Joseph Schumpeter (1955), who argued that markets lack of equilibrium due to a permanent influence of entrepreneurship.

²³⁹ D’Aveni (1994).

²⁴⁰ Miller (1992).

²⁴¹ Leonard-Barton (1992).

²⁴² Vasconcelos and Cyrino (2000: 33).

The works built on this underlying assumption of market stability form a *static* approach of the RBV, which was classified by Schulze as “structural school”²⁴³ and assumes that the necessary resources to implement a successful strategy are acquired in *factor markets*²⁴⁴ or internally accumulated in a firm²⁴⁵. The major interest of the *structural school* remains in the “stock and flow” of resources that can help to gain and sustain competitive advantage, what is typical of economics-based strategy content²⁴⁶ and of an emphasis on “preventing appropriation and/or imitation of valuable resources”²⁴⁷.

Some discussions in the *structural* works pay special attention to the strategic importance of individual resources, but in the practice what often matters to achieve competitive advantage is a cluster of resources, and not only a single one²⁴⁸. The high importance of *bundles of resources* (especially intangibles) as determining factors of competitive advantages is highlighted in the *process school*. Its works are not particularly inspired by economic concepts, like those of the *structural school*, but by organizational behavior and learning studies²⁴⁹, and are more interested in the processes through which rent-generating resources are created²⁵⁰.

²⁴³ The main authors of this *school* are Wernerfelt (1984, 1989), Barney (1986a, 1986b, 1991), Montgomery and Wernerfelt (1988, 1991) and Peteraf (1993). Dierickx and Cool (1989) are sometimes associated with this *school*, but their work is here considered belonging to a middle-point between the *structural* and the *process schools*. Their contribution represents “one of the first and still most important attempts to take the RBP in a more dynamic direction” (Foss, 1997b: 352).

²⁴⁴ Barney (1986a).

²⁴⁵ Dierickx and Cool (1989). Teece et al. (1997: 514) stated that, in the works of the “static” approach, it is “evident [...] (it) focuses on strategies for exploiting existing firm-specific assets”. Foss (1997a: 15) complemented that “the more dynamics issues relating to processes of accumulation of resources enter subsequently, or are simply suppressed”.

²⁴⁶ Schulze (1994: 140).

²⁴⁷ Schulze (1994: 134).

²⁴⁸ Dierickx and Cool (1989: 1504), Grant (1991: 121), Foss (1997b: 356), Vasconcelos and Cyrino (2000: 30).

²⁴⁹ Foss (1997a: 15).

²⁵⁰ Schulze (1994: 127).

2.4.3.2 The *Process School*

2.4.3.2.1 The *Dynamic Approach*

Unlike the works of the *structural school*, many researches of the RBV presume that markets are not stable and present cyclical states of equilibrium²⁵¹. Thus, the shifts in the environment boundaries require the renewal of resources and capabilities in advance to the changes in market conditions²⁵². This stream of research forms the “process school”, which assumes that “resource attributes and market conditions are variable over time”²⁵³ and that the capability in accumulating and combining new resources in new configurations is more important than the current stock of resources^{254,255}.

Furthermore, *dynamic* works focus primarily on resources which cannot be perfectly controlled by a firm²⁵⁶ (like intangible assets), or “qualitative differences among resources and / or the interaction of organizational processes and resources”^{257,258}. While the *structural school* focuses especially on idiosyncratic resources to explain the achievement of rents, the works of the *process school* embrace behavioral insights and concentrate also on other phenomena like organizational skills and routines, organizational learning and organizational culture²⁵⁹.

²⁵¹ Schulze (1994: 135).

²⁵² Schulze (1994: 135), Vasconcelos and Cyrino (2000: 34).

²⁵³ Schulze (1994: 139).

²⁵⁴ Vasconcelos and Cyrino (2000: 33). Regarding the deploying of resources to attend future demands, Hamel and Prahalad (1994: 30) questioned also the possibilities available in the MBV: “The tools of complementation analysis, industry structure analysis, and value chain analysis are eminently useful in the context of a clearly defined market, but what help are they when the market doesn’t exist?”.

²⁵⁵ As influential works of the “dynamic” approach should be mentioned Rumelt (1987, 1991), Schoemaker (1990), Prahalad and Hamel (1990), Collis (1991), Grant (1991), Nelson (1991), Amit and Schoemaker (1992), Hall (1992), Mahoney and Pandian (1992), Hamel and Prahalad (1994), Teece et al. (1997), and, in German, Rasche (1994), Rühli (1994, 1995) and Krüger and Homp (1997).

²⁵⁶ Schulze (1994: 142).

²⁵⁷ Schulze (1994: 144). A research with British CEOs observed that “company reputation”, “product reputation” and “employee know-how” were considered “the most important contributors to overall success” (Hall, 1992: 143).

²⁵⁸ Foss (1997a: 15) associated the term “dynamic” with “innovation, organizational learning, resource accumulation, competence-building, the development of the mental models of the management team, etc”.

²⁵⁹ Schulze (1994: 136-140).

The *process* approach intends to understand the organizational mechanisms and processes that are able to explain the accumulation and the configuration of a firm's basis of resources. The central point of this analysis is the arrangement of administrative processes (routines, activities, cultures, priorities) that influence the formation of tangible and intangible assets in firms. So, these works study the relationships among decision processes, accomplished actions and their managerial consequences, regarding the creation, sustenance and destruction of resources²⁶⁰. These features are observed in the major concepts of the *process school*, namely the "Core Competences" and the "Dynamic Capabilities"²⁶¹.

2.4.3.2.2 Core Competences

Almost simultaneously to the seminal *structural* works, Prahalad and Hamel (1990) introduced the concept of "core competence", which specifically highlighted the key role of specific capabilities in gaining long term competitive advantages²⁶². The concerning literature grew on many fronts bringing together a lot of misunderstanding due to different interpretations of this theory. The present section summarizes the key ideas of this concept, which are the basis of the works later published²⁶³.

The context built by Hamel and Prahalad to propose the concept of *core competences* is based on the idea that firms should "build" the future, in order to be market leaders. Necessary to that is the planning of a "strategic architecture", which "is basically a high-

²⁶⁰ Vasconcelos and Cyrino (2000: 32-33). Schulze (1994: 135) summarized that the *process* school "focuses on the process of creating rents through: (1) learning new ways to manage existing sets of resources, (2) developing new sets of resources and capabilities, and (3) achieving a match between changing environmental conditions and distinctive organizational resources". For another example, Sanchez et al. (1996: 15) stated that, regarding to the view of *structural* school only on static resources, the *dynamic* approach extends this "by explicitly incorporating (1) *managerial cognition* that affects what kinds of asset stocks and flows the firm will try to achieve, (2) managers' *coordination ability* in deploying resources and managing asset flows, and (3) managers' abilities to *manage knowledge* in processes for building and leveraging competencies".

²⁶¹ Another concept often explained together with "dynamic capabilities" is that of "organizational capabilities" (OC), whose works regard the link of firms' capabilities with different research areas, such as evolutionary economics, technology and organization, business history, economic growth and strategic management (see Dosi et al., 2000: 11-18). As OC is not a concept located "within" the "process school" or even wholly in the strategic management, it will not be further explained here. For a basic review about OC, see Dosi et al. (2000), Bandeira-de-Mello and Cunha (2001) and Proença (2003).

²⁶² Wernerfelt (1995: 171) wrote that Prahalad and Hamel translated some RBV ideas to a "managerial style" with the concept of "core competence". However, their works (Prahalad and Hamel, 1990, Hamel and Prahalad, 1994) were not built on the concepts of earlier *structural* theories, but on discussions about learning and competence deployment.

²⁶³ The chapter 4 will discuss more specific questions concerning *core competences*.

level blueprint for the development of new functionalities, the acquisition of new competences or the migration of existing competences, and the reconfiguration of the interface with customers”²⁶⁴. In accordance with a firm’s *strategic architecture*, the current *core competences* should be managed and new ones should be deployed²⁶⁵.

The definition of *core competences* embraces diverse aspects: they represent “the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies”²⁶⁶. This coordination takes place through the integration of different functional capabilities: “A core competence represents the sum of learning across individual skill sets and individual organizational units. Thus, a core competence is very unlikely to reside in its entirety in a single individual or small team”^{267,268}.

In order to identify, among a corporation’s several competences, if there are “core” ones, Hamel and Prahalad defined three conditions they should meet: “Customer Value”, “Competitor Differentiation”, and “Extendability”²⁶⁹.

Core competences provide particular benefits to customers and are not supposed to attend specific market-product segments, but to allow access to a large variety of markets. A typical example is Sony’s *core competence* in miniaturization, which generates the valuable customer benefit “pocketability”, enabling “the invention of the Walkman, portable CD-Player, and the pocket television”²⁷⁰. A classical example presented by Prahalad and Hamel is that of Canon, which for many years developed competences in precision mechanics, fine optics and microelectronics²⁷¹. Through their integrated use, Canon became able to exploit

²⁶⁴ Hamel and Prahalad (1996: 118).

²⁶⁵ Prahalad and Hamel (1990: 89).

²⁶⁶ Prahalad and Hamel (1990: 82). It is important to observe that “core competences” are not formed for one only competence: “A core competence is a bundle of skills and technologies rather than a single discrete skill or technology” (Hamel and Prahalad, 1996: 223).

²⁶⁷ Hamel and Prahalad (1996: 223). In accordance with that, Grant (1991: 121) explained that the *core competence* of McDonald’s (“remarkable consistency of products and services”) consists of the integration of “outstanding functional capabilities within product development, market research, human resource management, financial control, and operations management”.

²⁶⁸ Works of the RBV present several variations regarding the definition of “core competence”. See chapter 4.1.2 for a detailed discussion on terminology problems.

²⁶⁹ Hamel and Prahalad (1994: 224-228). These conditions will be further explained in chapter 4.1.1.2.

²⁷⁰ Hamel and Prahalad (1996: 219).

²⁷¹ Prahalad and Hamel (1990: 90).

distinct markets successfully, like those of photo-cameras, plain paper copiers and laser imagers. Figure 2.16 presents some other examples of *core competences*.

Firm	<i>Core Competence</i>
NEC	“Integration of computer and telecommunications technology”
Philips	“optical-media expertise”
Casio	“harmonization of know-how in miniaturization, microprocessor design, material science, and ultra thin precision casting”
Black and Decker	“Competence in the design and manufacture of small electric motors”

Figure 2.16: Examples of *Core Competences*
Source: Grant (1991: 121)

Instead of competing through products, firms should race for competence leadership, which is reflected at the corporate level: “Competition for competence is not product versus product, or even business versus business. It is corporation versus corporation”²⁷². Many reasons underlie this statement: (1) “core competences are not product-specific. They contribute to a range of products and services”²⁷³; (2) *core competences* are behind many products, thus the non-leadership in some competence may bring a large and lasting impact in a firm’s competitiveness, (3) the deployment of necessary capabilities at each business unit should be supported at the corporate level, and (4) the decisions about building and nurturing *core competences* concern the future competitiveness and thus the survival of the firm. Consequently, managers should be involved not only in the existing competition, but also in the opening of new future markets²⁷⁴.

Although the “basic theory” of *core competences* presented by Hamel and Prahalad regards the management of both current and future capabilities, there is a clear focus on the competitiveness in future markets. This fact was already observed by Grant, who wrote that “Prahalad and Hamel’s notion of “core competencies” is less an identification of a company’s current capabilities than a commitment to a path of future development”²⁷⁵. While the research on *core competences* approaches (especially) the building of corporate capabilities for future markets another RBV mainstream emerged, which studies the

²⁷² Hamel and Prahalad (1996: 221).

²⁷³ Hamel and Prahalad (1996: 221).

²⁷⁴ Hamel and Prahalad (1996: 222).

²⁷⁵ Grant (1991: 132).

“dynamic capabilities”, with a focus on the building and renewal of the capabilities necessary to compete in rapidly changing environments.

2.4.3.2.3 *Dynamic Capabilities*

The *structural* RBV presents a strong emphasis on long term competitive advantages; however, it does not explain how some firms gain competitive advantages in markets that change rapidly²⁷⁶. In this context, firms need “dynamic capabilities”²⁷⁷, which are “the firm’s ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments”²⁷⁸, where “short-term, unpredictable advantage is the norm”²⁷⁹. Teece et al. (1997) presented the original “manifesto” about *dynamic capabilities*, arguing that these ones are determined mainly by three categories of factors: a firm’s organizational and managerial processes, asset positions and available paths (path dependencies and technological opportunities)²⁸⁰.

It is noteworthy that *dynamic capabilities* are not directly related to the competitive advantages, but that they are thought to create the capabilities and products associated with the firm’s competitiveness²⁸¹. For instance, in the case of a medicine laboratory, whose main business is “research and development”, the skill of “new product development” is only a

²⁷⁶ Eisenhardt and Martin (2000: 1106, 1118).

²⁷⁷ Teece et al. (1997), Eisenhardt and Martin (2000) and Winter (2003).

²⁷⁸ Teece et al. (1997: 516).

²⁷⁹ Eisenhardt and Martin (2000: 1118).

²⁸⁰ Teece et al. (1997: 518). These authors explained: “By *managerial and organizational processes*, we refer to the way things are done in the firm, or what might be referred to as its routines or patterns of current practice and learning. By *position* we refer to its current specific endowments of technology, intellectual property, complementary assets, customer base, and its external relations with suppliers and complementors. By *paths* we refer to the strategic alternatives available to the firm, and the presence or absence of increasing returns and attendant path dependencies” (Teece et al., 1997: 518). They also clarified on the term “dynamic capabilities”: “‘dynamic’ refers to capacity to renew competences so as to achieve congruence with the changing business environment; certain innovative responses are required when time-to-market and timing are critical, the rate of technological change is rapid, and the nature of future competition and markets difficult to determine. The term ‘capabilities’ emphasizes the key role of strategic management in appropriately adapting, integrating, and reconfiguring internal and external organizational skills, resources, and functional competences to match the requirements of a changing environment” (Teece et al., 1997: 515).

²⁸¹ Eisenhardt and Martin (2000: 1117), Helfat and Peteraf (2003: 999). The first ones commented that “since the functionality of dynamic capabilities can be duplicated across firms, their value for competitive advantage lies in the configuration of resources that they create, not in the capabilities themselves” (Eisenhardt and Martin, 2000: 1106).

“zero level” capability, not a “dynamic” one²⁸². However, Toyota’s skill in “making new production systems”²⁸³ (a *dynamic capability*) does not directly concern “cars”, but the design of “car assembly” (a “zero-level” *capability*).

Although being quite young, the theory of *dynamic capabilities* already presents a clear division. While the “original” discourse of Teece et al. (1997) is based on the “idiosyncratic” characteristic of capabilities, Eisenhardt and Martin (2000) proposed a more flexible and empirical view, stating that *dynamic capabilities* “consist of strategic and organizational processes like product development, alliancing, and strategic decision making”²⁸⁴, all of which are processes that present commonalities across firms. Figure 2.17 summarizes the main differences between the views presented by Teece et al. (1997) and Eisenhardt and Martin (2000).

	Traditional view of <i>dynamic capabilities</i>	Reconceptualization of <i>dynamic capabilities</i>
Definition	Routines to learn routines	Specific organizational and strategic processes (e.g. product innovation, strategic decision making, alliancing) by which managers alter their resource base
Heterogeneity	Idiosyncratic (i.e., firm specific)	Commonalities (i.e., best practice) with some idiosyncratic details
Pattern	Detailed, analytic routines	Depending on market dynamism, ranging from detailed, analytic routines to simple, experimental ones
Outcome	Predictable	Depending on market dynamism, predictable or unpredictable
Competitive Advantage	Sustained competitive advantage from VRIN dynamic capabilities	Competitive advantage from valuable, somewhat rare, equifinal, substitutable, and fungible dynamic capabilities
Evolution	Unique path	Unique path shaped by learning mechanisms such as practice, codification, mistakes, and pacing

Figure 2.17: Contrasting conceptions of *Dynamic Capabilities*
Source: Eisenhardt and Martin (2000: 1111)

²⁸² Different levels of firm capabilities may be identified, as the “zero-level” (or “operational”) and the “dynamic” capabilities (Winter, 2003: 992, Helfat and Peteraf, 2003: 999). Those that are involved in the “normal” operation belong to a “zero-level” hierarchy, however the “capabilities that would change the product, the production process, the scale, or the customers (markets) served are not at the zero-level” (Winter, 2003: 992). Another classification is presented by Fujimoto (2000: 246): “(i) static capability, which affects the level of competitive performance, (ii) improvement capability, which affects the pace of performance improvements, and (iii) evolutionary capability, which is related to accumulation of the above capabilities themselves. While (ii) and (iii) both can be regarded as dynamic capabilities, they are different in that the latter is a non-routine meta-capability (i.e. capability of capability building)”.

²⁸³ Fujimoto (1998: 277).

²⁸⁴ Eisenhardt and Martin (2000: 1106).

The concepts of *core competences* and *dynamic capabilities* may be understood as complementary to each other. While the first one is mainly directed to the derivation of “technological” competences into new business areas *dynamic capabilities* are usually related to management processes (“skills that improve other skills”), with a major focus on the ability of permanently changing and developing the competences basis²⁸⁵. Although both concepts share many assumptions and objectives, Dosi et al. affirmed that the “discussion of dynamic capabilities has, however, been both broader in scope and more explicit in its treatment of the details of capabilities than the core competence discussion”²⁸⁶.

2.4.3.3 Comparison of the Schools

The existence of two different “schools” within the RBV is not recognized by all researchers. On the one hand, representative scholars of the *structural school* do not accept this division, as they consider *process* approaches only as a specific case, which is focused on a particular application: “the dynamic capabilities literature is entirely consistent with the RBT and should not be viewed as a separate theory. It is simply an extension of the RBT to a dynamic setting”²⁸⁷. On the other hand, researchers of *dynamic* views see their works in a *competence-based* and even in a *knowledge-based* view²⁸⁸.

Barney argued that the works of *process* and *structural* schools share assumptions that characterize both as belonging to a common RBV: they assume that “resources and capabilities can be heterogeneously distributed across competing firms, these differences can be long lasting, and they can help explain why some firms consistently outperform other firms”²⁸⁹. A little distinct set of shared assumptions, but not in conflict with this statement, was also presented by Schulze²⁹⁰:

²⁸⁵ Thiele (1997: 94), Hümmel (2001: 78-79).

²⁸⁶ Dosi et al. (2000: 6-7).

²⁸⁷ Peteraf and Barney (2003: 322). Barney et al. (2001: 630) commented about this matter that *dynamic capabilities* “are simply “capabilities that are dynamic””.

²⁸⁸ For *Knowledge-based View*, see Kogut and Zander (1992), Nonaka and Takeuchi (1995) and Grant (1996b).

²⁸⁹ Barney (2001: 649). Eisenhardt and Martin (2000: 1117) affirmed that competitive advantages cannot be sustained in dynamic, rapidly changing markets, however Barney et al. (2001: 631) argued that the proper ability of adaptation to these conditions may represent a source of sustainable competitive advantages, and thus, a strategic resource.

²⁹⁰ Schulze (1994: 137).

1. “Differences in resource endowments are causally related to differences in product and service attributes (...), and thus to differences in firm performance”;
2. “The resources needed to conceive, choose, and implement strategies are heterogeneously distributed across a set of competing firms”;
3. “Firms are rent-seekers”.

Despite these shared assumptions, a common structure between *structural* and *process* approaches is difficult to be realized; however, they may be considered complementary to each other, since they attend to different problems of research²⁹¹. Schulze stated, for example, that there is a fundamental difference characterizing the division of the RBV in two schools, namely the type of rents considered²⁹². As the *structural school* assumes a state of equilibrium in the market, this approach focuses on *Ricardian* rents, and thus “sustained competitive advantage is feasible if the resources used to achieve that advantage are rare, imperfectly mobile and non-substitutable”²⁹³. In contrast, the *process school* accepts this argument but also adds other conditions and processes that enable gaining other kind of rents in a dynamic environment, like *quasi* or *efficiency* rents²⁹⁴. Peteraf, in turn, recognized the existence of the two schools, but she renounced this argument, attributing such differentiation to “a widespread misunderstanding about the meaning and significance of different types of rents”²⁹⁵.

Chapters 2.4.3.1 and 2.4.3.2 have already presented some basic differences between the “schools”, especially the distinct assumption about the equilibrium in the environment. These and other differences are schematized in figure 2.18.

²⁹¹ Schulze (1994), Foss (1997a, 1997b).

²⁹² Schulze (1994: 129).

²⁹³ Schulze (1994: 137).

²⁹⁴ Schulze (1994: 135).

²⁹⁵ Peteraf (1994: 156).

	Structural School	Process School
Focus on...	...individual and idiosyncratic resources or capabilities.	...bundles of resources, intangible assets.
Analytical focus on...	...asset markets.	...organizational processes.
A firm's resources are...	...acquired in <i>factor markets</i> or internally accumulated.	...consciously developed.
Preoccupation with...	...“stock and flow” of resources. Prevention of appropriation or imitation.	...capabilities of building new resources.
Strongly influenced by...	...economics.	...organizational behavior and learning. Evolutionary theory.
In the analysis, product markets are considered in...	...relative equilibrium.	...cyclical states of equilibrium or “Schumpeterian” revolutions.
Rents considered	<i>Ricardian rents</i> .	Quasi and efficiency rents.
Research characteristic	Strategy content research.	Strategy process research.
Research topics	Strategic groups, influence of market on the firm performance, diversification studies.	Organizational skills and learning, interaction among organizational processes and resources.

Figure 2.18: Comparing “structural school” and “process school”

Source: Adapted from Schulze (1994), Peteraf (1994) and Vasconcelos and Cyrino (2000)

Despite the “internal” misunderstandings, the work of both schools has helped explaining the sources of competitive advantage, stressing the importance of the internal features to strategic management.

2.5 Looking for a Complementary Perspective of the MBV and the RBV

As observed in the previous chapters, the Market-based and the Resource-based Views have many differences. A short overview may even provide the perspective that they are conflicting with regard to their main goal: to explain the sources of competitive advantages. However, a more detailed comparison of both approaches allows concluding that they are complementary to each other. The present chapter describes differences and similarities between the MBV and the RBV thereafter discussing some guidelines to their integrated use.

2.5.1 Comparing the Two Views

Börner identified some similarities between the MBV and the RBV, which also represent some of their limitations²⁹⁶:

- Both views look at reaching sustainable competitive advantages that lead to high financial results. The MBV and the RBV present a major top-management view

²⁹⁶ Börner (2000: 818).

of the firm objectives; however, possible conflicts with shareholders or other stakeholders regarding the setting of goals are not discussed;

- The two views use an argumentation generalized from empirical cases representing an *ex post* perspective. They also present a focus on the context of large companies while the strategies of small and medium companies are barely observed;
- The two approaches present in high intensity a “planning-oriented” view of strategic management, although it is known that strategy concerns also “non-plannable” aspects.

A comparison between both views is marked, however, by their differences. To the MBV the competitive advantages depend especially on the positioning in attractive markets, while to the RBV they are related to superior sets of resources. Whereas the MBV focuses on the analysis of the market branch (or industry) deploying relevant evidences about it to further strategic deliberations, the RBV assesses the uniqueness and efficiency of a firm’s resources, in order to provide specific conclusions from each individual situation. Regarding the sequence of deliberations, in the MBV the demands of resources are planned from observations of the market, while in the RBV a firm’s given base of resources is the starting point to determine which market segments are more appropriated to compete in²⁹⁷.

Other basic differences are also identified²⁹⁸:

- Market cycle: Porter’s concepts are primarily related to “mature” markets, where the branch structure is stabilized, so that a positioning according to its characteristics is possible. Distinctly, the RBV discusses the emerging of new markets, although its concepts are also applicable to “mature” markets;
- Temporal perspective: Although this is not clearly discussed, it may be observed that the MBV presents a more short-term perspective than the RBV, because the first assumes the branch structure as relatively stable, while the RBV considers the firm’s history and evolution as important factors to the development of resources.

²⁹⁷ Rühli (1994: 50), Nolte (1999: 16-17).

²⁹⁸ Börner (2000: 818-819).

Furthermore, Porter's works (except for the *value chain*) are focused on the branch (business areas) and, thus, the object of planning in a diversified company is the business unit²⁹⁹. In contrast, the RBV may be associated with any firm level³⁰⁰. Concerning the objects of planning, the MBV sees the competition in the field of products and services, while for the RBV the competition among firms and capabilities is in the foreground. It is also observed that the RBV shows a clearer preoccupation than the MBV with the organizational and personal determinants of strategy creation³⁰¹. Figure 2.19 summarizes some of the identified similarities and differences between the MBV and the RBV, as have been outlined in chapter 2.

Aspect	Market-based View	Resource-based View
Main concepts	<ul style="list-style-type: none"> ▪ Five forces ▪ Generic strategies ▪ Value Chain 	<ul style="list-style-type: none"> ▪ VRIO framework ▪ Core competences ▪ Dynamic Capabilities
	Similarities	
	<ul style="list-style-type: none"> ▪ A top-management view of the firm's objectives; ▪ <i>Ex-post</i> perspective in the argumentation; ▪ Focus on the context of large companies; ▪ Planning-oriented view of strategic management. 	
	Differences	
Main origin of competitive advantage	Positioning in attractive markets	Superior sets of resources
Focus of analysis	Market branch (industry)	Uniqueness of firms' resources.
Sequence of decision	Observation of the market → Internal demands	Sets of resources → Appropriated market segments
Market cycle	Mature markets with stable structure	Emerging and mature markets
Temporal perspective	Shorter range than the RBV (stable industries)	Long range (firm's history and evolution are important).
Objects of planning	Business units (mainly)	Corporation, units and/or functions
Competition level	Among products and services	Among firms and competences
Starting point to strategic formulation	Environmental opportunities and threats	Strengths and weaknesses
Others	Clear attention with adaptation to the environment	Clear preoccupation with organizational and personal determinants of strategy creation

Figure 2.19: Comparative aspects between the MBV and the RBV

²⁹⁹ Börner (2000: 819).

³⁰⁰ Peteraf and Barney (2003: 321). Accordingly, the literature presents different statements about the planning object of RBV: e.g. Börner (2000: 819) related the RBV only to the level of diversified corporation, while Spanos and Lioukas (2001: 912) affirmed that the RBV (and the MBV) focuses "on the individual firm as [...] subject matter". Such affirmations were likely influenced by the topics these authors were deploying in their studies. For resource-based strategies at different firm's levels, see Mikus (2003: 393).

³⁰¹ Rühli (1994: 50).

When superficially compared, the MBV and the RBV might be understood as in opposition to each other. As the MBV emerged earlier and had a focus on the market, it was firstly accused of having a one-sided (i.e. external) tendency in the strategic analysis. The RBV, in turn, came later and paid a main attention to the internal side of the firms, with little consideration to the importance of its adapting to the environment. Yet, the latter does not deny the value of the MBV's market or industry analysis, but, concerning competitive advantages, it only intends to explain the "internal" perspective of firms in more detail:

*"it takes the product market conditions as given and assumes that there are no frictions in that realm. It does so for the purpose of sharpening and facilitating its own special focus"*³⁰².

Already in the RBV genesis, Wernerfelt anticipated the complementary aspect of assessing firms by the resources and market-product perspectives: they "are two sides of the same coin"³⁰³. In fact, both views look for explaining the same phenomenon: the sources of competitive advantage, although on different levels³⁰⁴. Thus, the MBV and the RBV should be assumed as complementary perspectives, which should be theoretically integrated, in order to build a more complete concept of assessment of the origins of strategic success³⁰⁵.

2.5.2 Towards Integrative Approaches

Considering the interest of advancing towards the integration of concepts of the MBV and the RBV, the present section gathers existing discussions, in order to offer a basis for further theoretical reflections.

³⁰² Peteraf and Barney (2003: 313).

³⁰³ Wernerfelt (1984: 171). Other prominent RBV authors agreed with a non-conflicting perspective: "(the RBV) is not a substitute for industry level analytic tools, such as 5-forces analysis [...] It is not a substitute for strategic group analysis or for analysis of the macro environment. Rather, it is a complement to these tools" (Peteraf and Barney, 2003: 312). Hamel (1997: 79, cited in Fischer, 2002: 160) stated also: "My view of competition is absolutely complementary to Michael Porter's. They are not in opposition at all".

³⁰⁴ Regarding the importance of assessing different levels, the results of RBV researches "suggest that multiple levels of analysis contribute meaningfully to profitability differences. Variation in profitability is explained, in part, by forces occurring at levels other than the enterprise level, such as the industry level and business group level" (Peteraf and Barney, 2003: 312). Supporting this argumentation, Spanos and Lioukas (2001) confirmed with a study in Greek firms that, in this context, both the external (the industry) and the internal factors (specific resources) are important to explain the different dimensions of performance.

³⁰⁵ For similar argumentation for a "complementary view", see Mahoney and Pandian (1992: 363), Simon (1996: 111), Bamberger and Wrona (1996: 141), Foss (1997b: 356), Hinterhuber and Friederich (1997: 1000), Krüger and Homp (1997: 64), Rohm (1998: 148), Ossadnik (2000: 274) and Spanos and Lioukas (2001: 923).

2.5.2.1 Considerations on Strategy Formulation

An integrated view of internal and external perspectives is already present in the SWOT framework³⁰⁶, which structures the four aspects highlighted by the “most successful strategic theories”³⁰⁷: *strengths*, *weaknesses*, *opportunities* and *threats*. Such factors might be the pillars of a more complete model of strategy formulation that integrates the MBV and the RBV, since the assessment of environment’s *opportunities* and *threats* may be accomplished by applying concepts of the MBV, while the RBV’s frameworks may provide the assessment of resources concerning *strengths* and *weaknesses* (figure 2.20).

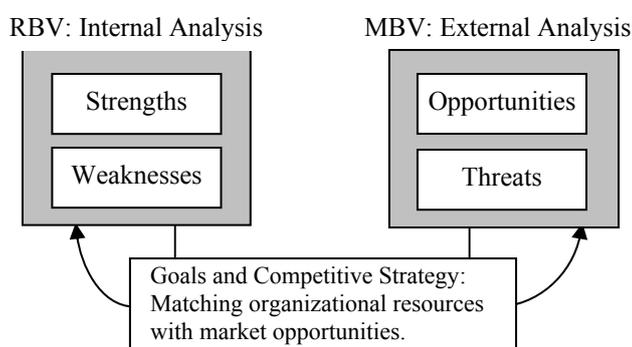


Figure 2.20: External and internal analyses inform the strategy
Source: Adapted from Barney (1991: 100) and Spulber (2003: 256).

A proposal towards an integrated view to strategic formulation should take care of the different firm levels and the “objects” of formulation. On the one hand, in the traditional market-oriented concepts, three main levels of strategy are delineated, namely “corporate”, “business areas” and “functions”³⁰⁸. Also in this sequence the respective strategies are usually deployed: *corporate* strategies guide the *business* strategies (product-market combinations and competitive strategy), which are the point of reference to the *functional* strategies. This succession is in conflict with the common RBV planning sequence, as this one assumes firstly the choice, identification and development of resources, and then defines

³⁰⁶ See chapter 2.2.1.

³⁰⁷ Barney (2002: 19).

³⁰⁸ Mikus (2003: 395).

their usage and transferring to new products and markets. Thus, the basis of resources is planned firstly and, thereafter, the offers and market positions are determined³⁰⁹.

On the other hand, the difficulties foreseen in the strategy formulation at the different levels are also reflected in the planning objects and in the prioritization of some view. While the formulation in the MBV (1) is geared to the market, (2) indicates (basically) only financial goals at the corporate level and (3) discusses resources (practically) only at the functional level³¹⁰, the RBV does not propose specific strategies to these levels, with the exception of the specific role of *core competences* to diversification.

One could suggest that both “products-markets” and “resources” may be considered in parallel, even because the levels focused by the MBV (industry) and the RBV (firms) are different. But if a simultaneous managing is not possible, then it would be necessary to set a priority to one of the views according to the situation³¹¹. A two-viewed planning on this base would not need a “monolithic” form, because it might occur through interleaved processes³¹². In this case, it seems logical to recommend that an integrative instrument should offer flexibility: depending on the context of markets and resources, one of them may have a major significance³¹³. Although this “flexible priority” may be useful, no frameworks in this sense seem to be already suggested³¹⁴.

2.5.2.2 The Use of Frameworks to Integrate the MBV and the RBV

Frameworks might be deployed to support the analyses of particular matters concerning the integration of the Resource-based and the Market-based Views³¹⁵, for which a framework

³⁰⁹ Grant (1991: 115), Krüger and Homp (1997: 92), Mikus (2003: 395). A dilemma can happen, for example, if a certain “product-market” strategy does not correspond necessarily with the set of superior resources that would be prioritized in a RBV perspective (Mikus, 2003: 394).

³¹⁰ Mikus (2003: 394).

³¹¹ Krüger and Homp (1997: 65), Mikus (2003: 397). A common argumentation in favor of a prioritization of resource-based strategies concerns the fact that the development of competences and resources takes a longer time range than the implementation of competitive strategies (Mikus, 2003: 397. See also other sources mentioned there).

³¹² Mikus (2003: 397).

³¹³ Ossadnik (2000: 286), Hümmer (2001: 111).

³¹⁴ According to Börner (2000: 818), integrative models have been rarely presented, especially regarding a concrete system of planning. To an extensive discussion on the integration of both views, with a focus on the strategy formulation, see Mikus (2003: 391-397).

³¹⁵ The use of frameworks as a valid way of structuring theoretical problems in the research on strategy was defended by Porter (1991: 98): “A framework, such as the competitive forces approach to analyzing

might explore particular questions. A proposal to integrate internal and external perspectives was presented by Spulber (2003), who associated them with “economic” and “management” approaches of strategy³¹⁶ (figure 2.21). This framework engages a collection of comprehensive management concepts, which do not necessarily belong to the MBV or the RBV.

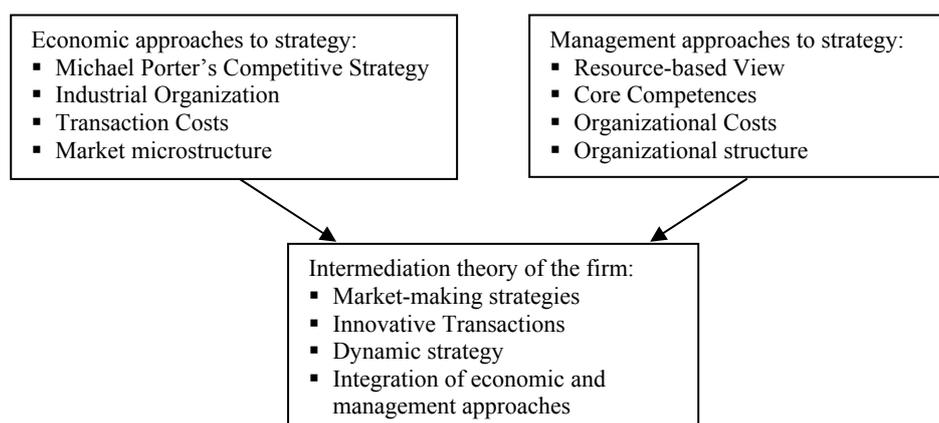


Figure 2.21: Integrating economic and management approaches to strategy
Source: Spulber (2003: 257)

A look at this framework allows realizing the complexity an instrument may present, even if the included concepts represent only a small sample of those available in the management studies, as it may be observed in the “ten schools of strategy formation”³¹⁷. Thus, the building of any proposal to integrate the MBV and the RBV should consider the challenge to deploy a “usable” tool concerning its complexity to the practice³¹⁸.

industry structure, encompasses many variables and seeks to capture much of the complexity of actual competition. Frameworks identify the relevant variables and the questions which the user must answer in order to develop conclusions tailored to a particular industry and company [...] The theory embodied in frameworks is contained in the choice of included variables, the way variables are organized, the interactions among the variables, and the way in which alternative patterns of variables and company choices affect outcomes [...] all the interactions among the many variables in the frameworks cannot be rigorously drawn”.

³¹⁶ Spulber (2003: 254).

³¹⁷ See chapter 2.1.2.

³¹⁸ Thinking on a practice view, Ossadnik (2000: 285) argued that models that intend integrating the MBV and the RBV should be in accordance with the limited capability of managers to problem-solving. The issue of complexity finds resonance also in the words of Peteraf and Barney (2001: 321), who affirmed that the RBV aims at explaining the sources of competitive advantage only at firm level, assuming that phenomena occurring in corporate or industry level should be treated by other theories, like the MBV and “games theory”. These authors advocated also that the integration of tools developed to other levels of analysis in the RBV “would unnecessarily complicate the task of operationalizing the model and conducting empirical work” (Peteraf and Barney, 2001: 321).

2.5.2.3 Linking Elements

As principles to embody the integration of the MBV and the RBV, Mikus suggested the *process management* and *competence management*³¹⁹. On the one hand, the concept of “process” interfaces the MBV, through the *value chain*³²⁰, and the RBV, through competences and routines. Moreover, a process represents a link between resources and offers: processes make use of resources to the production of offers. Thus, the concerning *process management* might provide a contribution to proposals for integration. This author also suggested that the planning related to processes might be considered in a strategy formulation that combines concepts of the MBV and the RBV, as discussed in chapter 2.5.2.1³²¹.

On the other hand, as competences may represent specific resources associated with processes, the *competences management* might be linked to the *process management*. Moreover, *competence management* is claimed by some authors as an integrative principle between external and internal perspectives, since it would contain a remarkable market-orientation³²². Yet, some arguments may be used against *competences* as linking elements: many principles on *competences management* show a clear dominance of the resource-

³¹⁹ See Mikus (2003: 399-401).

³²⁰ See chapter 2.3.4.

³²¹ Mikus (2003: 399-400). Börner (2000: 819) identified restrictions on the use of the *value chain* as integrative element, because both the MBV and the RBV approach this concept under opposite directions. While the RBV considers a given *value chain* as firm-specific, which should be exploited through an opportune market positioning, the MBV identifies firstly a desired positioning in the market, which is developed from the industry analysis. Given the chosen *generic strategy*, the existing *value chain* should adequately be restructured. Accordingly, this author concluded that a *value chain* may be considered an “independent variable” to the RBV, but a “dependent variable” to the MBV, making it difficult to see it as a “common” element between both views (Börner, 2000: 819). There are moreover some misunderstandings in the literature involving the term “process”, which is sometimes associated with the “activities” of Porter’s *value chain* (see e.g. Freiling, 2002b: 382-384, where all mentioned sources refer to Porter’s discussions on *value chain*’s activities). Further discussions about the relationship between the *value chain* and processes will be presented in chapter 3.2.2.1.

³²² With this justification Krüger and Homp (1997: 64) employed the term “market-oriented core competences”. Similarly, Freiling (2002b: 387) argued that “competence-based view” is concerned with the capabilities of using the resources in a goal-oriented and market-driven way. Sanchez et al. (1996: 27) also wrote about this interface-role: “the competence perspective suggests that the internal aspects of strategy (firm competences and resources) and external aspects of strategy (products, markets, and industry environments) are inextricably interrelated and cannot be adequately understood when either is analyzed in isolation from the other”.

oriented argumentation³²³ and, moreover, if concepts of *competence* are treated as possible links *between* the RBV and the MBV, it is implicit that they would not *belong* to this RBV.

Considering these previous suggestions, which indicate close interfaces of processes and *competences* with both market and resources perspectives, it seems justified that propositions concerning the combination of the MBV and the RBV might occasionally follow the way of *process-orientation*³²⁴ and / or some principles of *competences management*.

2.6 Chapter Summary and Perspectives

Chapter 2 reviewed important concepts within the theory of strategic management, with a major focus on the two research streams that study the sources of competitive advantage - the Market-based View (MBV) and the Resource-based View (RBV). After an initial introduction of definitions, this chapter discussed the evolution of strategic thinking and showed important tools of strategic planning. Thereafter, a basic summary of the MBV and the RBV was presented, finishing with a comparison of both concepts and an analysis on perspectives offered towards their combined application³²⁵.

Among the main perceptions from the literature review, the complementing feature between the RBV and the MBV should be stressed concerning their objectives of understanding the sources of competitive advantage. Moreover, while the literature is rich in works about the concepts related to each view, there are still few advances concerning the integrated use of the MBV and the RBV. Among these discussions on the integration, the following issues were summarized here:

1. Guidelines to support the strategy formulation,
2. The use of frameworks to analyze particular matters of integration,
and

³²³ Mikus (2003: 401).

³²⁴ As the following chapter 3 will explain, “process management” concerns the different approaches mainly related to the improvement or redesign of processes, while “process-orientation” embraces also, e.g. aspects linked to the organizational structure. Thus, *process-orientation* involves a wider scope of discussions concerning processes than those considered in *process management*.

³²⁵ It was not intended to detail each specific concept, but only to show a basic summary of them. Specific issues about any topic may be found in the sources quoted. As exception, the discussion on *core competences* will deserve a more detailed explanation in chapter 4.

3. Approaches that might support proposals of integration, namely *process-orientation* and *competences management*.

Compared to the arsenal of concepts and perspectives offered by the management research, this list only represents a small selection. As these three issues are apparently little exploited in the literature, there is supposedly much work to be done concerning the integrated application of the concepts of the MBV and the RBV.

A special remark is made here on the third issue, namely the concepts suggested as possible linking elements between the MBV and the RBV: processes and *competences*. While, by conceptual reasons, Mikus (2003) justified their use in integrative propositions³²⁶, in the literature it may also be observed that several authors have made efforts to explain the relationship between *process-orientation* and *core competence management* (CCM), although not necessarily with the interest of offering an integrated perspective³²⁷. Thus, investigations on this specific association may also be promising to build a complementary view between the MBV and the RBV.

Considering the opportune contribution of identifying - and if necessary also conceptualizing - how processes (through *process-orientation*) and *core competences* (through their management) may play a common role to the integration of the MBV and the RBV, the present research will look for explanations on the relationship “*process-orientation* - CCM”. In accordance with this intent, chapter 3 will review the foundations of *process-orientation*, in order to understand how the concerning concepts are related to the strategy matter. Thereafter, the theoretical bases of CCM will be analysed in chapter 4 with a specific evaluation on how *process-orientation* has been considered.

³²⁶ See chapter 2.5.2.3.

³²⁷ See e.g. Gaitanides and Sjuris (1995), Bhattacharya and Gibbons (1996), Krüger and Homp (1997), Rohm (1997), Osterloh and Frost (2003) and Nasner (2004).

3. *Process-Orientation* and Strategy

*“Processes are real and how the business works.
However they have been forgotten or
ignored in large organizations”¹.*

A characteristic of several new management concepts of the last two decades is the so-called *process-orientation* (also “*process-view*”), which consists in the structuring of management according to the flow of the organizational activities. Firms are leaving the functional structure, which was the predominant organizational form in the 20th Century, and organize their resources and flows along with their processes of operation². Accordingly, the related research increased strengthening the importance of this perspective in the optimization of firms’ performance.

Some discussions in the German literature of the 30’s had already referred to *process-orientation* in Organizational Theory³, but only with the publication of some American works in the beginning of the 90’s the matter evolved to a popular academic and business approach in the whole world⁴. The literature concerning *process-orientation* nowadays presents many faces and the process-oriented view of the organizational design is related to various terms, like “Lean Production”⁵, “Business Process Reengineering”⁶, “Business Process Improvement”⁷, “Just-In-Time” (JIT)⁸, “Total Quality Management” (TQM)⁹,

¹ Earl (1994: 13).

² Gonçalves (2000a: 14). Corsten (1997: 48) mentioned that a survey in the middle of the 90’s (see Heppner, 1995: 32) observed that 80% of the questioned firms would like to implement additional process-oriented organizational forms in the following years.

³ Gaitanides (1983: 5), Corsten (1996: 11), Osterloh and Frost (2003: 29).

⁴ Some of the most influential works to introduce this concept into academic and consulting fields were written by Harrington (1991), Davenport (1993) and Hammer and Champy (1993).

⁵ Womack et al. (1999).

⁶ Hammer and Champy (1993).

⁷ Harrington (1991).

⁸ Mito and Ohno (1986), Lubben (1988).

⁹ Ishikawa (1985), Deming (1986), Juran (1988).

“Supply Chain Management”¹⁰, “Business Networks”¹¹ and “Activity-Based Costing / Management” (ABC/ABM)¹² as well as to some views of virtual organizations¹³.

The present chapter summarizes the main ideas about *process-orientation* starting with the origin and reasons for the process thinking and, thereafter, describing some of its relevant foundations. Finally, processes will be analyzed under the lens of important strategy issues.

3.1 The Evolution of Process Thinking

3.1.1 Three Phases of Organizational Research

The discovery of processes as an organizational element may be found in the 30's, when Nordsieck introduced the division of *Aufbau-* and *Ablauforganisation* in the organizational research¹⁴. *Aufbauorganisation* refers to the relationship of employees with operational tasks, concerning the tasks division and assignment, whereas *Ablauforganisation* is related to the sequence of work including its temporal integration¹⁵. While the first one is directed at building the organizational potentials and has a static point of view, the second one deals with the process of using these capabilities and, showing a dynamic behavior, controls the spatiotemporal conditions of the execution of the *Aufbauorganisation*¹⁶. Similar ideas were almost simultaneously brought by Hennig (1934) and represent the phase of “*foundation*” of the Organizational Science¹⁷. In this stage, *Aufbau-* and *Ablauforganisation* have similar importance to the procedures of organizational structuring¹⁸.

The next phase of the organizational research (the “*Formalization*”¹⁹) shows a stronger influence of the structural (*Aufbau*) over the dynamic (*Ablauf*) aspects of the organization.

¹⁰ Forrester (1961), Tan (2001).

¹¹ Grandori and Soda (1995), Ebers (1999).

¹² Kaplan and Cooper (1998).

¹³ Waltert (1999: 79). See Armistead et al. (1999: 96): “...“lean manufacture” and “concurrent engineering” or “just-in-time” [...] All of these approaches are of course based mainly on a notion of process”.

¹⁴ See Nordsieck (1931a, 1931b, 1934).

¹⁵ Waltert (1999: 74).

¹⁶ Corsten (1996: 11).

¹⁷ Gaitanides (1983: 5), Waltert (1999: 74).

¹⁸ Waltert (1999: 75).

¹⁹ Waltert (1999: 75).

Kosiol defined that the process of organizational structuring should begin with a detailed analysis and synthesis of the tasks, in order to design the organizational structure, and only inside of their boundaries the dynamic points of view would be relevant²⁰.

However, since the beginning of the 80's, there has been new attention concerning the dynamical aspects of organization in the German-speaking organizational research (phase “*Dynamization*”), where the flows have again a very important meaning. This renaissance was supported especially by Gaitanides' concept of “*Prozessorganisation*” (Process Organization) and by MIT's studies about the basis of firms' competitiveness²¹.

3.1.2 The *Process Organization*

“*Process Organization*” was defined as a *process-oriented* organizational form in which the functions and departments are designed considering the specific necessities of the process-flows in the context of the production and delivering of goods and services²². The design of a *process-organization* should be understood as a three-tiered activity, which builds an integrated system of process-structures²³:

- **Pre-organizational process analyses:** to demarcate the boundaries of organizational areas to the process design, decomposition in sub-processes (elements of process, elements of work, activities, etc.), definition of sequences (prioritization) and estimations of time expenditures at the sub-processes²⁴;

²⁰ See Kosiol (1969: 199-212) and Kosiol (1969: 222-232).

²¹ Waltert (1999: 76). Some influential authors in this field also appointed the influence of the quality programs in the origin of process thinking (see e.g. Davenport and Short, 1990: 3, Kaplan and Murdock, 1991: 28, and Davenport, 1993: 312). Moreover, quality played also an important role in the MIT's studies (chapter 3.1.3). Armistead and Machin (1997: 886-887) commented about the relationship processes-quality: “Processes are part of the philosophy of total quality management (TQM). Both the Malcolm Baldrige National Award and the European Foundation for Quality Management (EFQM) model, on which the European Quality Award is based, have at their heart the consideration of business processes. Such models require the identification of processes, the management of these processes with review and targetary, innovation and creativity applied to processes and the management of process change”.

²² Gaitanides (1983: 62).

²³ Gaitanides (1983: 63). Rohm (1998: 15-16) complemented that *process organization* involves the implementation of this mental model of the firm, i.e. of the thinking in processes, in concrete organizational structures.

²⁴ Gaitanides (1983: 64).

- **Distribution of process elements to the work positions:** based on the previous process analysis, the work positions are defined in accordance with the tasks, so that the expectations of performance may be adequately accomplished²⁵;
- **Coordination of processes:** to describe the necessities of coordination inside as well as among the designed processes, and to determine the appropriate coordination mechanisms²⁶.

With these issues, Gaitanides' concept offered a relevant theoretical impulse to the development of further works concerning a flow-oriented organizational view²⁷, which led practically the whole German literature on *process management* later developed.

3.1.3 The MIT Studies

Some studies developed at MIT²⁸ evaluated the foundations of firms' competitive forces, especially the reasons of the lasting successes of Japanese companies compared to American and European ones^{29,30}. They observed that the simultaneous optimization of the factors "quality", "time" and "costs" was identified as a challenge in Japan already in the 50's resulting in the development and implementation of tactical process-oriented views that aimed only at the improvement of manufacturing³¹. However, it was soon recognized that only the harmonization of value-adding activities in the whole order processing, with the adaptation of the organizational structure to the processes, would make the synchronized optimization of the "competitive factors" quality, time and costs possible³².

²⁵ Waltert (1999: 77).

²⁶ Waltert (1999: 77).

²⁷ Fuhrmann (1998: 17), Waltert (1999: 77).

²⁸ Massachusetts Institute of Technology, Cambridge, USA.

²⁹ Waltert (1999: 77-78). This author mentioned the following MIT research: a general study of productivity (Dertouzos, 1989), a comparative study of automobile industry (Womack et al., 1990) and a study of the use of information technology (Scott-Morton, 1991).

³⁰ According to Davenport (1993: 2), the principles of continuous improvement have characterized the cultures of some Japanese companies for decades and the fact that Japanese firms discovered (or, at least implemented) process management long before the West helps explain their worldwide economic success.

³¹ Waltert (1999: 78) indicated that these views were Total Quality Control (TQC), Just-in-Time (JIT) and Autonomie Automation.

³² Waltert (1999: 77-78).

With that, MIT's studies provided a relevant and empirically justified impulse to the development of process-oriented principles of organizational design, which received wide attention due to publications of consulting companies that caused a "boom" of process-oriented organizational approaches³³, like "Lean Management", "Business Process Improvement" and "Business Reengineering"³⁴. A main point of the modern texts about *process-orientation* is the necessity of using information technologies to support a new process-oriented organizational view³⁵, and even a process-oriented "organizational revolution"³⁶ is discussed.

3.2 Changing to a Process-View

3.2.1 Reasons

Since the Industrial Revolution the organizations management, which is based on the principles of the "Scientific Management" (or "Taylorism"³⁷), has been focusing on the control of each task improving the individual skills of workers and the performance of the functional departments³⁸. Commonly, companies work under departmental responsibility and focus, and managers control the performance only within their responsibility units³⁹. This "functional management" brings together important problems. It leads the managerial attention separately to workers and departments, while the decisions look only for localized targets of improvement. When the processes are not observed, but the different firm

³³ Waltert (1999: 78-79).

³⁴ Corsten (1997: 14-15).

³⁵ Waltert (1999: 78-79).

³⁶ This idea of "revolution" is associated with works on "Process Reengineering", which will be discussed in chapter 3.3.2.

³⁷ Davenport (1994: 367).

³⁸ According to Davenport (1994: 113), Taylor and others believed that the more isolated the worker was, the more efficient the performance of the task. Davenport (1994: 378) also recognized the importance of Taylor's principles of scientific management to the "reengineering" ideas, as for instance, the emphasis on the decomposition of the work, as well as focus on measurement and, occasionally, on the power of technology to enable change in work.

³⁹ Harrington (1991: 13) wrote that "most companies organize themselves into vertically functioning groups, with experts of similar background grouped together to provide a pool of knowledge and skills capable of completing any task in that discipline".

functions, the goals of these ones are not defined according to the overall needs of the business. As a result, these diverging goals may lead firms to a general sub-optimization⁴⁰.

The vertical structure builds the so-called “silos”⁴¹ (figure 3.1), which act as interdepartmental barriers that make the solving of cross-functional issues among peers at low- and middle-levels difficult. The “silos” culture forces the managers to clear up lower-levels problems consuming time they should dedicate to competitive and customer’s matters. Low-level workers, who could be solving these cross-functional questions, assume little responsibility for the results and view themselves as mere implementers and providers of information⁴².

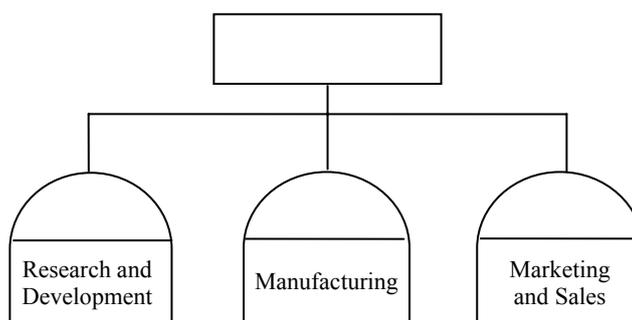


Figure 3.1: The phenomenon “silo”

Source: Adapted from Rummler and Brache (1995: 6)

In this context, the interchange among the functions is frequently disordered and the existing interfaces between functional or product units should “be either improved or eliminated and [...] where possible, sequential flows across the functions be made parallel through rapid and broad movement of information”⁴³. Each interface is⁴⁴:

- A waiting-point, because there are problems of temporal coordination when handing over;

⁴⁰ Davenport and Short (1990: 14), Harrington (1991: 13-14), Kaplan and Murdock (1991: 27), Rummler and Brache (1995: 7). Davenport (1993: 11) brought the following example: a product is manufactured more quickly than before, but it remains in the deposit waiting for a verification of customers’ credit or a solution of an order discrepancy. Consequently, the impact of functional improvement can be limited (or also negative), because the process optimization did not bring immediately benefits to the customer.

⁴¹ Rummler and Brache (1995: 6).

⁴² Rummler and Brache (1995: 6-7).

⁴³ Davenport (1993: 8). Process Management is even understood as “interfaces management” (Rohm, 1998: 23).

⁴⁴ Osterloh and Frost (2003: 22).

- A source of errors, because there are losses of information regarding the whole linking of tasks;
- A source of organizational irresponsibility, because errors and insufficiencies are more difficult to be attributed.

Due to these reasons, interfaces usually generate organizational problems, as a necessity of coordination accrues concerning time, facts and human resources⁴⁵. In order to avoid the problems of management in a functional structure, process-oriented concepts were developed⁴⁶, which prioritize the management of the processes. These concepts aim at analyzing an organization through its productive and information flows, studying their behavior through the interdepartmental relations in the value-adding chain (figure 3.2).

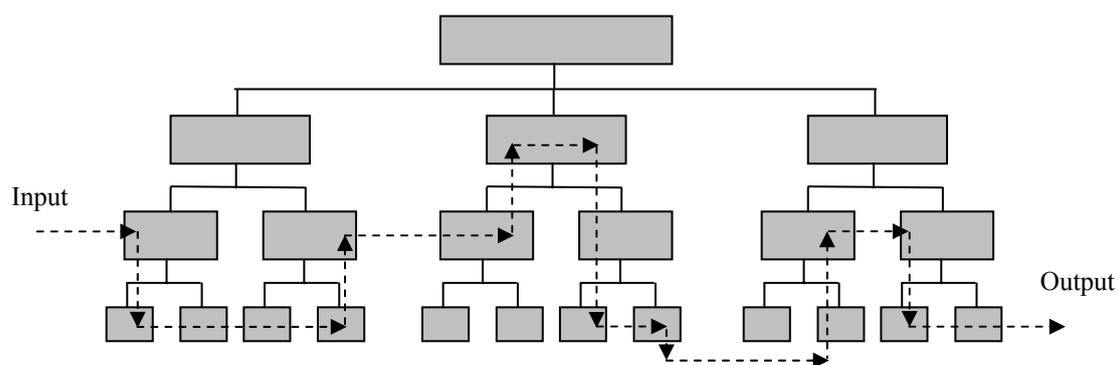


Figure 3.2: Cross-functional process (representation)
 Source: Adapted from Hinterhuber (1995: 66)

Process-oriented management aims at allowing a better understanding of activities, with the aim of facilitating their optimization according to the customer expectations. Thus, the processes become the points of reference to the analysis of structure and flows, i.e. there is a dominance of the processes over the function-oriented perspective, which prioritizes the analysis of the individual functions⁴⁷ (figure 3.3). The vision of the organization in terms of processes inevitably implies a cross-functional and cross-organizational change⁴⁸.

⁴⁵ Osterloh and Frost (2003: 22).

⁴⁶ It is not clear when these concepts were exactly developed, but most of literature concerning *process management* refers to Harrington (1991) and Hammer (1990) as initial references, respectively, to “process improvement” and “process reengineering” approaches. However, as appointed in chapter 3.1, discussion about *process-orientation* also appears since the 30’s in the German literature.

⁴⁷ Staud (2001: 22).

⁴⁸ Davenport (1993: 8).

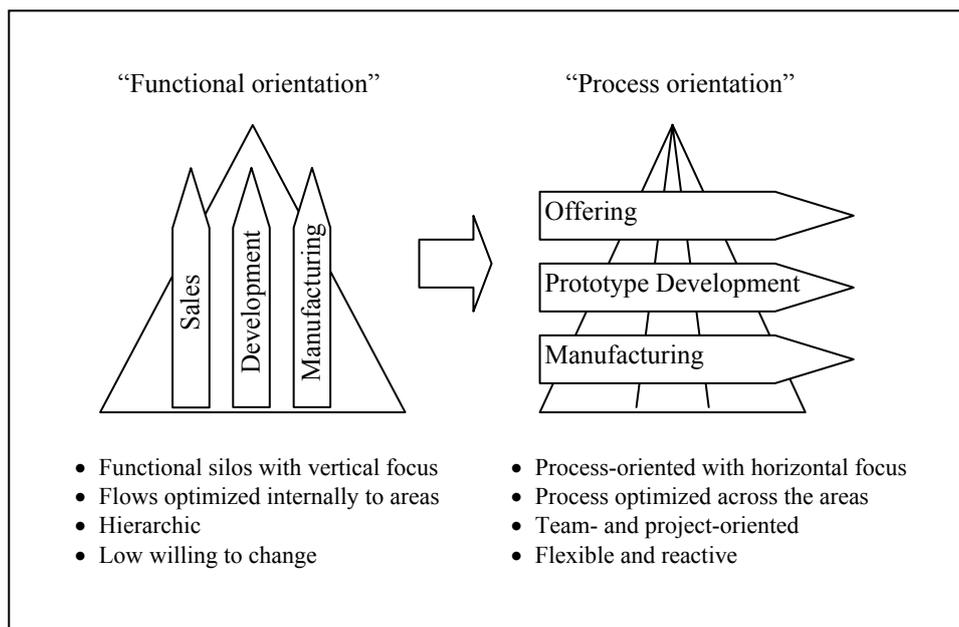


Figure 3.3: Change of orientation

Source: Adapted from Maier and Laib (1997: 99)

Comparing the different organizational forms (functional/vertical *versus* process/horizontal), Davenport wrote:

“whereas an organization’s hierarchical structure is typically a slice-in-time view of responsibilities and reporting relationships, its process structure is a dynamic view of how the organization delivers value. Furthermore, while we cannot measure or improve hierarchical structure in any absolute sense, processes have cost, time, output quality, and customer satisfaction. When we reduce costs or increase customer satisfaction, we have bettered the process itself”⁴⁹.

Firms look for *process-orientation* in order to get more efficiency in their production and services, to achieve a better adaptation to changes, a better integration of their efforts and a better learning capacity⁵⁰. The following benefits to thinking in terms of processes were appointed by Kaplan and Murdock (figure 3.4):

⁴⁹ Davenport (1993: 7).

⁵⁰ Gonçalves (2000b: 9).

- “First, it links improvement efforts to the overarching strategic objectives that drive competitive success. It enables senior management to focus the entire company’s improvement efforts on a targeted set of high-leverage performance goals.
- Second, it incorporates the entire chain of related activities, crossing organizational boundaries, functions, and geographies, as well as incorporating suppliers and customers. Thus, it identifies the “upstream” activities that drive “downstream” performance.
- Third, it emphasizes cross-functional measures so that performance across functions, rather than within functions, is optimized.
- And, finally, it encourages a results-oriented view of the business, such as total delivered cost or end-to-end cycle times. It develops an external view of the business, based on the perspectives of customers and suppliers, as well as a heightened awareness of competitors”.

Figure 3.4: Benefits of process thinking
Source: Kaplan and Murdock (1991: 32)

These and other similar ideas have been spread in the scientific literature in the last 15 years and support the subsequent practice and research approaches that are somehow related to *process-orientation*.

3.2.2 Characterizing Processes

3.2.2.1 Definitions

Several definitions of the term “process” are found in the literature, where “processes” and “business processes” are frequently referred to with the same meaning (figure 3.5). Yet, the term “business process” may also be used to emphasize that these processes happen in business organizations⁵¹.

⁵¹ Bogaschewsky and Rollberg (1998: 187). Some authors understand “business process” as a process that is specifically related to the main company objectives (e.g. Harrington, 1991: 9, Becker and Kahn, 2000: 4, Staud, 2001: 5); however, this meaning is more usually associated with the called “core processes” (see chapter 3.2.2.2.1).

Authors	Definition
Harrington (1991: 9)	“Any activity or group of activities that takes an input, adds value to it, and provides an output to an internal or external customer. Processes use an organization’s resources to provide definitive results”.
Davenport (1993: 5)	“A process is [...] a structured, measured set of activities designed to produce a specified output for a particular customer or market. [...] A process is thus a specific ordering of work activities across time and place, with a beginning, an end, and clearly identified inputs and outputs”.
Hammer and Champy (1993: 35)	“We define a business process as a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer”.
Rummler and Brache (1995: 45)	“A business process is a series of steps designed to produce a product or service”.
Corsten (1997: 16-17)	“... lassen sich <i>Prozesse</i> generell als Tätigkeits-, Aktivitäts-, Handlungs- oder Aufgabenfolgen beschreiben, die in einem logischen Zusammenhang stehen und durch einen Prozeßbeginn (Trigger) und ein Prozeßende abgrenzbar sind“ ⁵² .

Figure 3.5: Selected definitions of “process”

Among these and other definitions, some aspects should be highlighted. Central elements of the concept are the *transformation aspect* and the *cross-functional character* of the processes, which may occasionally be cross-enterprise entities⁵³. “Inputs” to the transformation are tangible (raw material and supplies) and intangible (information) assets, which are applied by firm resources (machines, buildings, physical and mental work) to provide tangible and intangible “outputs” (products)⁵⁴. Accordingly, a process may be understood as an “input-output” system, in which a firm provides work through a value-adding chain (figure 3.6).

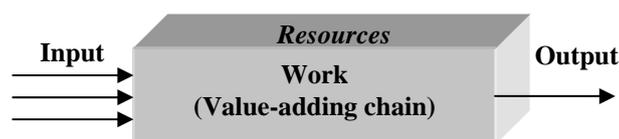


Figure 3.6: Macrostructure of a process
Source: Adapted from Corsten (1996: 17)

Since processes are sequences of activities that create value, it is important to understand the relationship between them and the *value chain*⁵⁵. Initially, this one was conceived of as an

⁵² Free translation: “...processes may be described as sequences of operations, activities, actions and tasks, which stay in a logical relationship and are delimitable by a process-beginning (trigger) and a process-end”.

⁵³ Rohm (1998: 9-10).

⁵⁴ Rohm (1998: 11).

⁵⁵ See chapter 2.3.4.

instrument of strategic analysis and not as an organizational concept⁵⁶: the graphic representation of a *value chain* (figure 2.9) is more an image of common organizational functions than the representation of a cross-functional process⁵⁷. Moreover, the focus is kept on the value creation in the *primary* activities, while those in the *support* activities are not discussed⁵⁸. However, the *value chain* may characterize a macrostructure of the existing processes; so, it might serve as a basis for their redefinition and help to recognize interface problems among the “value activities” within a firm and with its suppliers and customers⁵⁹.

Every action in an organization may be associated with a process (“almost everything we do or are involved in is a process”⁶⁰). As there are highly complex and very simple processes, Harrington proposed a hierarchy to facilitate their understanding and analysis (figure 3.7).

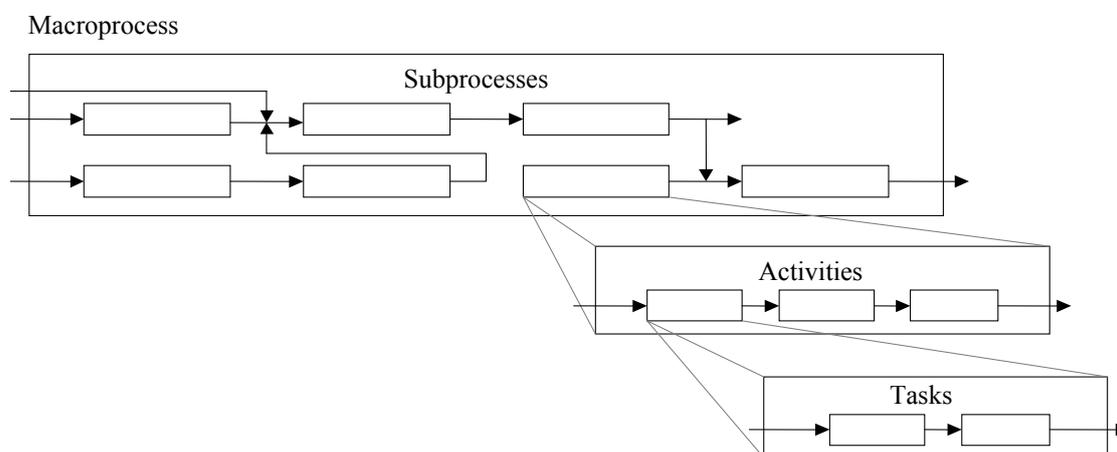


Figure 3.7: Process hierarchy
Source: Harrington (1991: 30)

The macroprocesses are the highest level of processes, which can be divided, for instance, in subprocesses, thereafter in activities, and finally in tasks. These ones “are usually performed

⁵⁶ Osterloh and Frost (2003: 155-156).

⁵⁷ Schwarzer (1994: 46), Bea and Hass (1997: 97). The functional view seems clear in Porter’s words: “The value chain is a theory of the firm that views the firm as being a collection of discrete but related production functions, if production functions are defined as activities. The value chain formulation focuses on how these activities create value and what determines their cost, giving the firm considerable latitude in determining how activities are configured and combined” (Porter, 1985: 39). For a different interpretation, see e.g. Fantapiè Altobelli and Berndt (1997: 193), who argued that the individual *value activities* are not congruent with the homonymous institutionalized functions, but present the sum of all activities that occur in connection with the implementation of the respective operational basic functions.

⁵⁸ Scholz (1995: 59).

⁵⁹ Fantapiè Altobelli and Berndt (1997: 193).

⁶⁰ Harrington (1991: 30).

by an individual or by small teams. They make up the very smallest microview of the process”⁶¹.

3.2.2.2 Classifications

Processes are classified in different forms in the literature. The importance of a classification occurs because different types of processes “require different levels of management attention and ownership, need different forms of IT support, and have different business consequences. [...] With various processes types in mind, a manager can begin to isolate particular processes for analysis and redesign, including activities that, without process thinking, might otherwise be overlooked”⁶².

3.2.2.2.1 Core and Support Processes

A very common classification divides the processes into two categories: *core* and *support* processes. Among the set of processes in an organization, there are some that are critical, namely processes that are related to the achievement of critical factors of success. These ones are called “core” *processes* and they should assure a firm’s competitiveness since they lead to the customer’s satisfaction. *Core* processes own strategic importance and should be directly considered in the strategic management⁶³. Typical examples are the processes of “product development”, “production” and “logistic”.

“Support” processes perform activities that do not add value in the customers’ point of view; however, they are necessary to carry out the *core processes*⁶⁴. Some examples are “industrial maintenance” and “personal catering”. *Support processes* have not any direct strategic meaning and are main candidates to *outsourcing* in order to leave the managerial attention free to the necessities of *core processes*. Opposite to these ones, which aim at external customers, the *support processes* have only internal customers⁶⁵.

⁶¹ Harrington (1991: 31). In the context of process hierarchy, the term “task” should be understood as an element of a process, and not as an “assignment” or “mission”.

⁶² Davenport and Short (1990: 18). For other classifications, see Rohm (1998: 179-190).

⁶³ Gaitanides et al. (1994: 6), Corsten (1997: 29), Huber and Poetges (1997: 81), Waltert (1999: 84).

⁶⁴ Becker and Kahn (2000: 5), Osterloh and Frost (2000: 37).

⁶⁵ Osterloh and Frost (2000: 35-37).

After being identified, *core processes* should be improved and prioritized in the management of the firm as a whole, influencing the redefinition of the organizational structure and the firm's operation. The classification into *core* and *support* processes is floating, because in different contexts and to different organizations the same process can either be a *core* or a *support* one⁶⁶.

3.2.2.2.2 Operational and Management Processes

A firm's processes can also be classified as *operational* or *management* processes⁶⁷. The *operational* processes are those that deal with the way through which the products or services are created, produced, sold or serviced⁶⁸. Typical examples are "product development", "customer acquisition", "customer requirements identification", "manufacturing" and "integrated logistics"⁶⁹.

Management processes involve "the ways senior managers make, communicate, implement, monitor, and adjust decisions, and measure and compensate performance"⁷⁰. Some examples are: "strategy formulation", "planning and budgeting", "performance measurement and reporting", "resources allocation", "human resource management" and "infrastructure building"⁷¹. In an organization the *management* processes are usually the most poorly defined ones⁷², but not less important, because they "are where much of the money is spent"⁷³. However, there are some difficulties in analyzing these processes, since many of them present a network structure (activities cluster) and, thus, cannot be treated as sequential processes, like those approached in "improvement" and "reengineering" programs⁷⁴. Earl

⁶⁶ Becker and Kahn (2000: 5).

⁶⁷ Davenport (1994: 9).

⁶⁸ Davenport (1994: 322).

⁶⁹ Davenport (1994: 9).

⁷⁰ Garvin (1995a: 80).

⁷¹ Davenport (1994: 321).

⁷² According to Davenport (1993: 275), the "structure of management activities is rarely documented".

⁷³ Davenport (1993: 276).

⁷⁴ Gaitanides and Sjurts (1995: 72). The approaches of "process improvement" and "process reengineering" will be presented in the chapters 3.3.1 and 3.3.2, respectively.

argued that management processes are knowledge-based and “cannot be depicted as activity flows and boxes”^{75,76}.

3.2.3 Structuring the Process-oriented Organization

In the context of *Process Organization* there is not an ideal organizational form that may be compared to basic models of functional, divisional or matrix-oriented firms; accordingly, a large variety of process-oriented organizational models may be observed in the practice⁷⁷. Many issues need to be clarified during the transition from a functional to a process-oriented organizational structure and one of the most important concerns the definition of responsibilities. Moreover, the shift to a *Process Organization* may not be accomplished suddenly since the transformations are drastic and need to be done simultaneously to the firm’s normal operation⁷⁸.

Mayer exemplified some stages of the transition among the organizational forms⁷⁹. The first one concerns the “functional organization with process responsibilities” (figure 3.8). In this case, there is no reorganization yet. Functional structures remain unchanged and some processes receive already “process-owners”, who play only advising roles and coordinate cross-functional actions of rationalization. The authority structure remains unchanged in the functional hierarchy⁸⁰.

⁷⁵ Earl (1994: 15). This author complemented: “Examples include strategy-making and innovation. The latter are more difficult to analyze, model and predict. Their flows are irregular, interrupted and sometimes chaotic”.

⁷⁶ A criticism on these and other classifications was presented by Edwards and Peppard (1998: 155-156), who understood that they would “give no indication of the importance of these processes to the business or how they should be managed. [...] they indicate little about the appropriateness of various performance improvement strategies such as continuous improvement or process redesign” (Edwards and Peppard, 1998: 156). These authors proposed another division, which is intended to allow a better identification of the processes involved in the current activities as well as those that contribute to the future strategic advantages: *competitive, infrastructure, core* and *underpinning* processes (see Edwards and Peppard, 1998: 152-155).

⁷⁷ Rohm (1998: 16).

⁷⁸ Mayer (2005: 93-96).

⁷⁹ Mayer (2005: 93) commented that these steps may be subdivided and should be adapted to the context of each firm. Corsten (1997: 40-48) showed also a similar structure of transition, with an additional perspective of process-teams together with a “process manager” (or “process owner”). For another sequence of process-oriented organizational designing, see Rohm (1998: 16-18), who identified the *Process Organization* with a “broader” and with a “narrower” sense.

⁸⁰ Mayer (2005: 93-94).

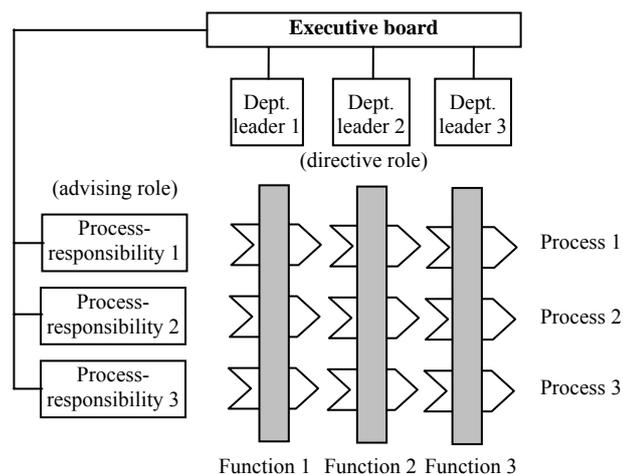


Figure 3.8: Functional Organization with Process Responsibilities
 Source: Mayer (2005: 94) (translated).

The second stage is the “Matrix-Organization”, where process and functional orientation coexist, causing conflicts of competence and decision, which require clear rules and written procedures, as well as a cooperative style of leadership between functional leaders and process-owners. Finally, the third stage is the *Process Organization*, which involves large actions of reorganization with the alignment of the organization to the *core processes*. The process-owners become responsible for the processes in front of the executive board and the functions serve only as staff positions that support the processes⁸¹. Figure 3.9 schematizes the “Matrix-Organization” and the *Process Organization* stages.

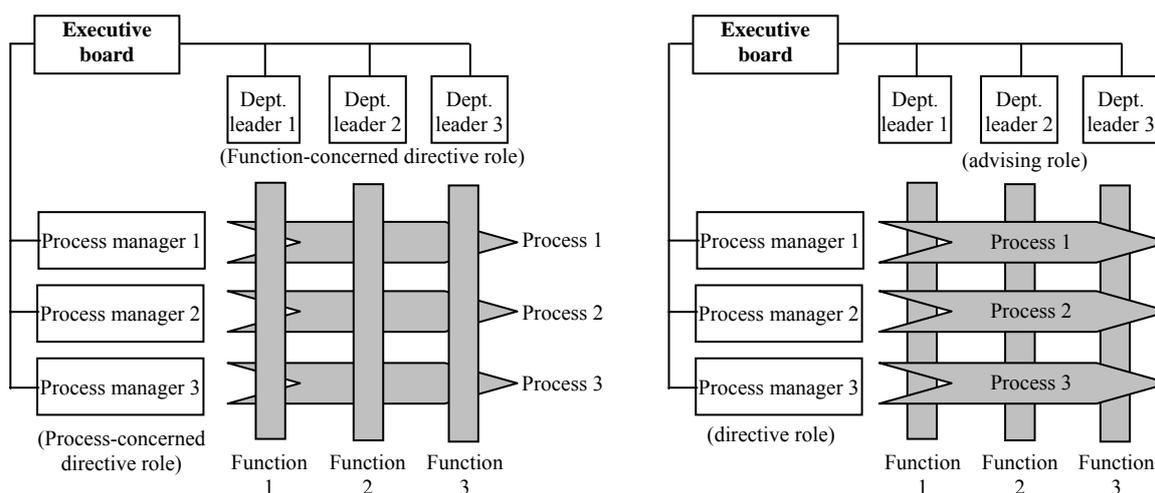


Figure 3.9: Matrix-Organization (left) and Process Organization (right)
 Source: Adapted from Mayer (2005: 95-96).

⁸¹ Mayer (2003: 94-96).

Gonçalves (2000b) suggested five “evolution stages” in the way to the *Process Organization* (figure 3.10). By identifying in which stage a firm is currently placed, this classification may be used to guide the preparation of the management initiatives for future advances, as well as to help the selection of adequate performance indicators⁸².

	Stages				
	A	B	C	D	E
Where are we?	Processes, which processes?	We have identified our processes, activities and tasks	We have improved the core processes	We have rearranged our resources throughout our core processes and named the responsibility to a <i>process owner</i>	Our organization was designed by the logic of our core processes
Comments	Firms have not even perceived Usually, firms perceive only manufacturing processes. The other ones are accessories.	The focus of efforts is still on the functions The processes are allocated in the functional structure The work procedure is probably still old The approach is very diffuse	Firms still think through functions, even if they know well their processes The use of <i>case managers</i> may improve the contact with the customer The authority still resides in the vertical units	It is still a patch, built over an antique structure Firms begin to get results from the emphasis on processes, but with a high discomfort in the organization Implementing of the new organization	It is the adequate organizational form to the process management Functional areas practically do not exist. Goals and targets are defined to the processes
Where can we go in terms of business?	While the matter is only manufacturing, the chances of radical improvement are limited.	Improvement of constraints and gain of localized efficiency improvements	Improvement of <i>core processes</i> , cutting out the activities and functions that do not add value.	Management of some isolated processes and integration with support processes	Integrated management of core processes

Figure 3.10: The stages of evolution of the organization by processes
Source: Gonçalves (2000b: 14) (translated).

It is also important to consider that, independent of the way a firm chooses to implement its orientation by processes, the functional units should not be completely “imploded”, since they still play a supporting role⁸³.

3.3 Process Management

3.3.1 Definitions

In the literature there are several definitions of “process management” (figure 3.11); however, this term has also been occasionally associated with any of its approaches⁸⁴.

⁸² Gonçalves (2000b: 13-15).

⁸³ Rohm (1998: 18), Mayer (2005: 95-96).

⁸⁴ Rohm (1998: 19) affirmed even that there is not a common theory of *process management*.

Process Management has the objective of optimizing the activities that effectively add value to products and services, and looks for elevated effectiveness and efficiency and faster capacity of adaptation⁸⁵.

Authors	Definition
Gaitanides et al. (1994: 3)	“Prozeßmanagement umfaßt planerische, organisatorische und kontrollierende Maßnahmen zur zielorientierten Steuerung der Wertschöpfungskette eines Unternehmens hinsichtlich Qualität, Zeit, Kosten und Kundenzufriedenheit“ ⁸⁶ .
Rummler and Brache (1995: 125)	“A set of techniques to ensuring that key processes are continuously monitored and improved”.
Bogaschewsky and Rollberg (1998: 185)	“Unternehmensführung, die auf prozeßorientiertem Denken und Handeln basiert“ ⁸⁷ .
Rohm (1998: 22)	“Prozeßmanagement ist ein permanentes Wandlungskonzept für das Prozeßsystem der Unternehmung. Es umfaßt die zielorientierte Planung, Steuerung und Kontrolle von Unternehmungsprozessen (Systemgestaltung) sowie die dazu notwendige Organisation (Vorgehensgestaltung)“ ⁸⁸

Figure 3.11: Selected definitions of “Process Management”

Usually the targets of enhancement concern cost, quality and time levels. The design of processes should consider who are the customers and markets, define exactly how the products and services are, map the concerning workflows and clarify the customer-supplier relationships⁸⁹.

There are two main approaches to achieve gains through *process management*: *improvement* and *reengineering*⁹⁰. The differences between both may be consequences of the discrepancies between oriental (mainly Japanese) and occidental cultures. While oriental mentality involves an improvement by small steps (*Kaizen*), occident companies prefer a

⁸⁵ Striening (1995: 168), Varvakis et al. (2000: 4).

⁸⁶ Free translation: “Process Management comprehends planning, organizational and controlling actions to goal-oriented management of a firm’s value-adding chain, concerning quality, time, costs and customer satisfaction”.

⁸⁷ Free translation: “Business management based on process-oriented thinking and action”.

⁸⁸ Free translation: “A permanent changes concept to a firm’s processes system. It includes the goal-oriented planning, direction and control of firms’ processes (systems design) as well as the accordingly necessary organization (procedures design)”.

⁸⁹ Gaitanides and Sjuris (1995: 64), Corsten (1996: 19), Varvakis et al. (2000: 6). According to Davenport (1993: 7), “taking a process approach implies adopting the customer’s point-of-view”.

⁹⁰ Rohm (1998: 66) wrote that every process-oriented view presented by scholars or consulting companies may be located between these “boundary” positions. Ittner and Lareker (1997: 523) stressed this assumption: “process management initiatives can vary from incremental improvements in existing processes to radical business process innovation”.

radical optimization⁹¹. *Process improvement* is an evolutionary model and is concerned with continuous improvement and incremental changing in an organization⁹². In turn, *reengineering* approaches represent fundamental and radical steps that intend a full new definition and design of the processes, whereas *improvement* approaches, in turn, aim only at an inferior level of change, with a “slightly increased efficiency and effectiveness”⁹³.

3.3.2 Process Improvement

The concepts of *process improvement* are based on the Japanese quality movement⁹⁴, initially introduced by Juran and Deming, and were expanded by various other authors, particularly Harrington⁹⁵. *Process improvement* includes the definition, coordination and permanent improvement of processes in the administrative and productive areas⁹⁶ and requires initially a mapping of the processes and thereafter their evaluation⁹⁷. Most important criterion for this one is the contribution to the business outcomes and customers, accordingly, the “value-added” is an important issue to *process improvement*: “When raw materials, subassemblies, or other substrata materials progress through a manufacturing process, they accumulate what could be called *value-added*”⁹⁸, which is different from the value of bookkeeping methods, but regards to customer’s perception. The optimization of processes is basically the reduction of all issues that do not add value, with decrease of times and costs and, thus, more attractive products⁹⁹.

⁹¹ Gaitanides et al. (1994: 10). “Kaizen” is often considered synonymous with continuous improvement (Bhuiyan and Baghel, 2005: 765). For a summary of the roots of continuous improvement, see Bhuiyan and Baghel (2005: 762).

⁹² Corsten (1997: 35)

⁹³ Davenport (1993: 10).

⁹⁴ For the MIT studies on the competitiveness of Japanese firms see chapter 3.1.3.

⁹⁵ Varvakis et al. (2000: 4).

⁹⁶ Koch and Vogel (1997: 63).

⁹⁷ Maier and Laib (1997: 103).

⁹⁸ Harrington (1991: 138).

⁹⁹ Varvakis et al. (2000: 43). In order to facilitate the “value-added assessment” of activities, Harrington (1991: 138-140) suggested to classify them in three main categories: *Real-value-added* (RVA), *Business-value-added* (BVA) and *No-value-added* (NVA) activities. RVA are activities that, when viewed by the end customer, are required to provide the output that the customer is expecting. BVA concern those activities that are required by the business but that add no value from the customer’s point of view, as for instance administrative activities. Finally, NVA are activities that do not contribute to meeting customer requirements and could be eliminated without degrading the product or service functionality or the

Processes can be optimized through many procedures, especially regarding steps and tools used for the “streamlining” of the processes, which is understood as the “trimming of waste and excess, attention to every minute detail that might lead to improved performance and quality”¹⁰⁰. For example, if duplicated activities are identified, one of them should be eliminated (or even both, if they are not really necessary), in order to reduce costs and cycle-time. The representations in figure 3.12 symbolize different measures to be considered to the improvement of processes.

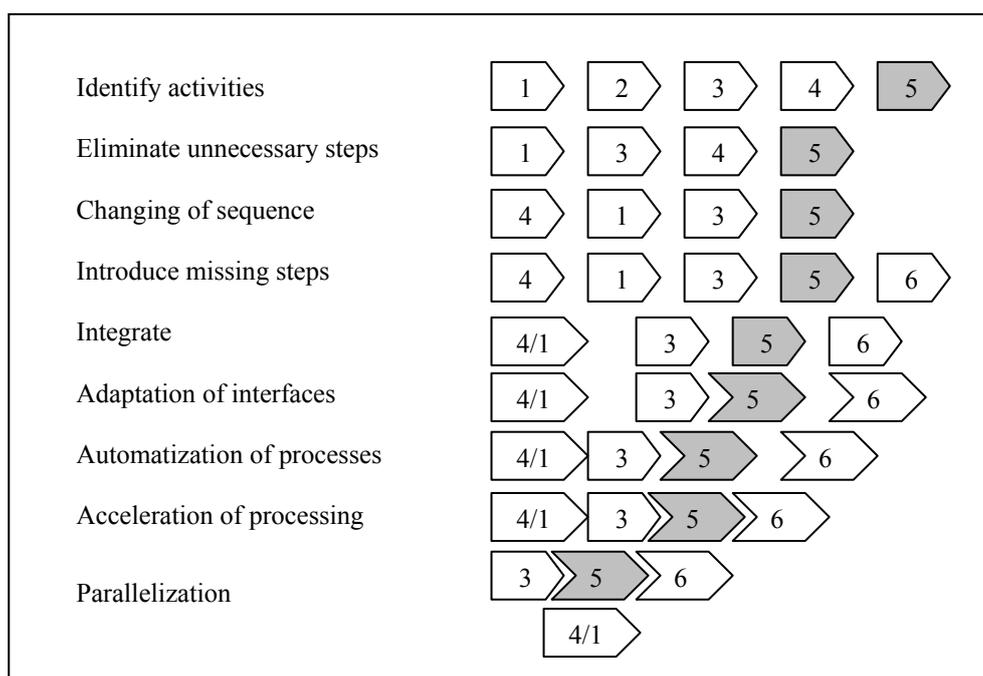


Figure 3.12: Measures of process optimization
Source: Mischak (1997: 9) (translated)

The “streamlining” initiatives may be supported by several tools, such as the following ones, which were recommended by Harrington¹⁰¹:

business. Examples are the “storage” activities. The following reasons are appointed as causes for the existence of NVA activities (Harrington, 1991: 140, Scholz and Vrohling, 1994b: 110): *Redundancies*: the same outcome was already reached in the same or another process; *Inefficiencies*: the process was not efficiently designed, or does not work as designed; *Absence of reasoning*: the activities exist only because of former organizational structures or management behavior; *Economic inefficiency*: the activities are not economically viable (costs are higher than the created value).

¹⁰⁰ Harrington (1991: 131).

¹⁰¹ See Harrington (1991:67-68). Besides these ones, Harrington (1991: 66-67) suggested also other “basic team and problem-solving tools”, which should be requisites to the members of improvement teams: team process, brainstorming, check sheets, graphs, histograms (frequency distributions), pareto diagrams, scatter diagrams, nominal group techniques, delphi narrow technique, force-field analysis, cause-and-effect diagrams, mind maps and statistical process control.

- process improvement concepts,
- flowcharting,
- interviewing techniques,
- process improvement measurement methods,
- no-value-added activity elimination methods,
- bureaucracy elimination methods,
- process and paperwork simplification techniques,
- simple language analysis and methods,
- process walk-through methods,
- cost and cycle time analysis.
- quality function development (QFD),
- program evaluation and review technique (PERT) charting,
- business systems planning (BSP),
- process analysis technique (PAT),
- structured analysis/design (SA/SD),
- value analysis,
- value control,
- information engineering, and
- benchmarking.

According to each specific initiative to be performed such tools may be applied individually or in combination.

3.3.3 Process Reengineering

The basic texts about *process reengineering*¹⁰² were written by Davenport, Hammer and Champy in the beginning of the 90's¹⁰³. The main assumption of this approach is that just

¹⁰² Other equivalent terms have been used with the same idea, e.g. “process innovation”, “business transformation”, “business process reengineering”, “business process transformation”, “core process redesign”, “business process redesign” (BPR) or “business reengineering” (Earl, 1994: 5, Edwards and Peppard, 1998: 151). For some arguments that advocate for a differentiation between the terms “redesign” and “reengineering” see Krickl (1994: 24). Edwards and Peppard (1997: 754) also considered “business transformation” and “business process reengineering” with different scopes.

¹⁰³ See Hammer and Champy (1993) and Davenport (1993). The basis of their ideas was previously presented in Davenport and Short (1990) and Hammer (1990). Venkatraman (1991, cited in Biazzo, 1998) described

incremental improvements in the existing processes are not enough to achieve relevant increases of competitiveness, thus, it is necessary to carry out a radical change in the organizational structure with the redesign of the processes and the alignment of management responsibilities to them. The necessity of a radical change, instead of improvement initiatives, is based in the belief that the objective of incremental improvement is “to do what we have already done, only to do it better”¹⁰⁴, accordingly, *reengineering* seeks leaps of performance, which should be reached by the replacing of the existing processes with new ones.

The authors that coined the term “reengineering” defined it as “the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as costs, quality, service and speed”¹⁰⁵. With that, the workflows should be more efficient, i.e. clearer and more transparent, and a final result is the reduction of complexity in the operative processes¹⁰⁶. The basic ideas on *reengineering* in the early writings were:

- “Radical redesign and improvement of work;
- Attacking broad, cross-functional business processes;
- “Stretch” goals of order-of-magnitude improvement;
- The use of IT as an enabler of new ways of working”¹⁰⁷.

An important point in the *reengineering* is the management of organizational change: “To be successful, companies must implement, along with the redesign of their core processes, an appropriate program to manage fundamental changes in the organizational structure,

the origin of the term “business process re-design” (which became later known also as “reengineering”): it “arose for the first time in a research program which started in 1984 at MIT [...] and BPR was classified at the third of five levels of “business re-structuring” according to a classification of the emerging challenge of aligning IT and strategy”.

¹⁰⁴ Hammer and Champy (1994: 49). According to these authors, companies that try to improve their performance focusing only on parts of processes (as in the *improvement* approach) would only assure the sustainment of actual performance (Hammer and Champy, 1994: 18). Scott (1995) explained that “BPR’s focus of efforts and emphasis is on analyzing each process as if it did not previously exist (a zero-base approach), then determining how, ideally, the process task should be performed without regard to how it is now performed, and then building the process management system and the process information technology support system that best supports the new process”.

¹⁰⁵ Hammer and Champy (1994: 32).

¹⁰⁶ Gaitanides and Sjuris (1995: 62).

¹⁰⁷ Davenport et al. (2003: 48).

attitudes, values and beliefs”¹⁰⁸. The implementation of *process reengineering* may follow several procedures¹⁰⁹, which are however relatively similar. One example is represented in figure 3.13, which shows six steps to be tracked.

- | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> ➤ Building the vision of the re-engineered organization, ➤ Planning how the vision will be realized, ➤ Analysing the current structure and processes, ➤ Redesigning the ‘business architecture’, ➤ Implementing the redesigned organization and processes, ➤ Measuring the benefits and sharing the learning. |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Figure 3.13: Six key steps in *Process Reengineering*
Source: Talwar (1993: 31)

Reengineering also receives many critiques. Davenport - one of the founders of this approach - and other scholars wrote strong criticisms to the way the original ideas were being implemented and considered¹¹⁰. For instance, *reengineering* nowadays would have different meanings: “To some, reengineering came to mean any attempt to change how work is done - even incremental change of very small processes. To others, it became a code for downsizing”¹¹¹. Other critics refer to a rhetorical appeal of *reengineering* proponents, lack of

¹⁰⁸ Pereira and Aspinwall (1997).

¹⁰⁹ For some examples, see e.g. Davenport and Short (1990: 14), Kaplan and Murdock (1991: 35-40), Bogaschewsky and Rollberg (1998: 259-265). Hess (1996) compared several procedures and commented that the design of a process is a multilayer problem, which may be described from three perspectives (Hess, 1996: 14): (i) the expected goals (incremental or radical changes), (ii) the steps of the organizational design (organizational planning, realization and control) and (iii) the dimensions of the organizational design (a factual-rational, a political/behavior-oriented and a value-cultural dimensions, as proposed by Krüger, 1993: 364-365). Some aspects common to the procedures of process design are the following: (1) this one requires not only knowledge on the process, but also diligence and creativity where “brainstorm” techniques are very useful. The project of a process prototype and several iterations to its improvement should play a helpful role (Davenport and Short, 1990: 17, Kaplan and Murdock, 1991: 40-42, Hess, 1996: 30); (2) it is important to integrate the use of IT also during the design, not only within the process (Davenport and Short, 1990: 16); (3) two “rules of thumb” are helpful: completeness - “a well drawn process is not necessarily well defined or complete” - and conformance - “specifying a process completely does not guarantee that it will be executed that way” (Talwar, 1993: 37), and (4) before implementing a new process, the involved purposefulness, economic viability, (possible) resistance of involved staff and the costs concerning information, qualification and motivation of workers need to be evaluated (Bogaschewsky and Rollberg, 1997: 262-263).

¹¹⁰ Davenport et al. (2003: 48) wrote “Business process reengineering was one of the biggest business ideas ever [...] Described in more than 25 books, featured in articles in every major business publication, discussed at hundreds of conferences, reengineering penetrated every continent, with the possible exception of Antarctica. Reengineering became a money machine for several of its constituents: the gurus who proponed the idea (at least a couple of them!), the consulting firms that offered reengineering services to their clients, and the software vendors who managed to convince firms that their wares were critical to successful reengineering”.

¹¹¹ Davenport et al. (2003: 48). The imprecision around the term “reengineering” was discussed by Biazzo (1998) and Davenport et al. (2003), who affirmed that it finds different meanings in practice, according to

scientific novelty or its theoretical inconsistency¹¹². These and other factors are appointed as causes of dissatisfaction and decline of *reengineering* since the middle of the 90's¹¹³. However, this approach apparently remains well accepted: a study in 2004 observed that 53% of German top-corporation and large middle-sized enterprises were implementing *process reengineering* and another 13% intended doing the same in a short range of time¹¹⁴. Furthermore, when 224 German firms were asked about their short and middle range budgets to implement eleven given consulting concepts, BPR deserved the first place in both time ranges¹¹⁵.

3.3.4 Combining both Approaches

Several differences are observed between *process improvement* and *reengineering* (figure 3.14). Although both may seem conflicting ways to increase the performance, they should be considered as complementary, as they combine the benefits of incremental and leap changes¹¹⁶. Davenport said that even if both approaches are distinct, they “present similar challenges. Both require a strong cultural commitment and high degree of organizational discipline, a process approach, a measurement orientation, and a willingness to change”¹¹⁷. It was also soon foreseen that the combination with “quality and other process-oriented

the interest of organizations or consulting companies, and that non-related kinds of projects have been carried out in the name of *process reengineering*. Similarly, Zeller (1995: 108) affirmed that “reengineering” was associated with different kinds of improvement projects, from flows optimization in isolated functional areas to massive restructuring with a firm’s fundamental reorientation.

¹¹² See Harari (1996), Biazzo (1998), Case (1999) and Davenport et al. (2003). Regarding the lack of scientific novelty, Davenport and Stoddard (1994: 122) wrote the “key components of BPR are not new concepts, but they had never been together before”. The criticisms arose, according to them, because “most popular writers on reengineering have ignored its historical roots”.

¹¹³ According to Pereira and Aspinwall (1997), “The literature shows that 50-70% of BPR initiatives fail to deliver the expected results”, and Harari (1996: 50) mentioned: “*The Economist* summarizes studies that indicate that 85 percent of interventions just plain and outright “fail””. For other criticisms, see e.g. Kiely (1995), Sissell (1996), Pereira and Aspinwall (1997), Weihrich and Belardo (1997), Clermont (2001) and Davenport et al. (2003).

¹¹⁴ Schaudwet (2004: 52-53). This survey was deployed by the Institute of Management and Consulting Sciences (Bonn) and the sample was not precisely reported - it was just informed that over 200 top-corporation and large middle-sized enterprises were consulted, which belong to the most important branches, including telecommunications and information technology, engineering, consumption goods, banking and insurance, chemistry and pharmaceutical.

¹¹⁵ Anon (2004). It is not clear what companies were asked, however, they were possibly the same like the ones asked in the last mentioned report, since both studies were accomplished by the same institute and published in the same year.

¹¹⁶ Scott (1995), Rohm (1998: 66), Osterloh and Frost (2003: 148).

¹¹⁷ Davenport (1993: 14).

improvement approaches into an integrated process management approach” would be an option to the future of *reengineering*¹¹⁸. In fact, a survey already conducted in 1994 indicated that “84% of all companies doing BPR also engaged in TQM”^{119,120}.

	Improvement / Kaizen	Reengineering / Innovation
Level of change	Incremental	Radical
Results	Long-term and lasting, but not <i>deep</i>	Short-term and <i>deep</i>
Starting point	Existing process	Clean slate
Frequency of change	Continuous and incremental	At intervals and non-incremental
Necessary time	Short	Long
Participation/procedure	Bottom-up / collective work	Top-down / individual work
Typical scope	Narrow, within functions	Broad, cross-functional
Risk	Moderate	High
Basic conditions	Conventional knowledge	Technologic development, discoveries, new theories
Primary enabler	Statistical Control	Information Technology
Expenses	Low financial investment, but much efforts and work with the project-care	High investment, but few efforts with permanent project-care
Evaluation measure	Advance and efforts for better outcomes	Higher Profit
Advantages (mainly)	In slow growth branches	In fast growth branches
Type of change	Cultural	Cultural/structural

Figure 3.14: Improvement versus Reengineering

Source: Adapted from Davenport (1993: 11) and Gaitanides et al. (1994: 10)

Some authors set the *process improvement* as a final step of *reengineering* implementation. For example, Osterloh and Frost suggested an ideal combination between *reengineering* and *improvement* programs (figure 3.15), while Gaitanides et al. affirmed that both approaches may be joined through *process management*, in which innovation and the continuum alternate, since the continuous improvement would be the normal state and the *reengineering* the exception¹²¹.

As the *reengineering* can need a long time to be implemented, the simultaneous use of improvement techniques is also advantageous, in order to attain short-time gains in existing processes. Yet, some risks in the combined application of both approaches should be considered: “Unless they are clearly distinguished, undertaking innovation and improvement

¹¹⁸ Davenport and Stoddart (1994: 126).

¹¹⁹ Edwards and Peppard (1994: 258). These data were accessed in a research of Edwards and Preece (1994).

¹²⁰ As it may be observed, concepts related to quality, such as the “Total Quality Management” (TQM), are frequently associated with the approach of *process improvement*.

¹²¹ Gaitanides et al. (1994: 11).

activities concurrently can be confusing, but in a very large organization, it may be the only way to achieve short-term benefit”¹²².

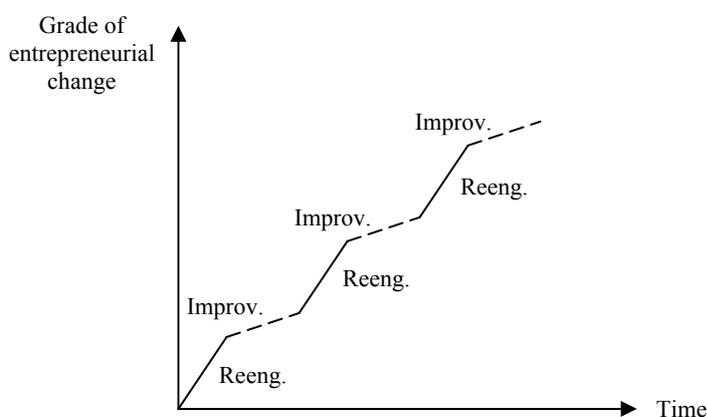


Figure 3.15: Combination of Reengineering and Improvement
Source: Adapted from Osterloh and Frost (2003: 149)

Up to now, chapter 3 has been showing basic concepts concerning the adoption of process-oriented approaches. The implementation of these concepts has brought benefits to firms' performance as they lead to cost saving, shortening of lead time, quality improvement and, thus, higher customer satisfaction levels, which are recognized as strategically decisive factors¹²³. However, just process-related gains of operational efficiency do not generate inevitably strategic effectiveness¹²⁴ and, unfortunately, the theoretical support concerning *process-orientation* does not emphasize clearly in which form the processes and their management approaches are coupled with strategic management, although it is recognized that processes are the ways through which a strategy is implemented¹²⁵. Not surprisingly, the missing link of the processes with the strategy is often identified as a source of failures in the *process management* programs¹²⁶.

¹²² Davenport (1993: 141).

¹²³ Bogaschewsky and Rollberg (1998: 24), Waltert (1999: 78).

¹²⁴ Gaitanides and Sjurts (1997: 62), Porter (1996).

¹²⁵ Treichler and Schmidt (1996: 137), Edwards and Peppard (1998: 148). Reinforcing this argumentation, Ray et al. (2005: 627) appointed "the growing consensus in the strategy literature that business processes are the basic unit of competitive advantage".

¹²⁶ Rohm (1998: 195).

3.4 Processes and Strategy

In order to develop a better understanding of the link between *process-orientation* and strategic management, some relevant issues will be discussed, namely, (1) the relationship among processes, structure and strategy formulation, (2) the role of the *process management* approaches in the formulation and implementation of strategies and (3) the link between processes and operations strategies¹²⁷.

3.4.1 Processes, Structure and Strategy Formulation

The interrelationship between strategy and organizational structure was intensively discussed by Chandler (1962), who studied how some American corporations deployed strategies from the assessment of operational strengths and environmental opportunities. He observed that when the discrepancies between the new strategies and the old structures result in internal disharmonies then the necessary organizational adjustments were made¹²⁸. As a result, a principle of dependency of both parameters was stated, namely that “*structure follows strategy*”¹²⁹. In this case, a given “market-based” orientation may be observed, since the structure should be adapted to the environmental competitive conditions, which influence the formulated strategy. This supposed dependence between strategy and structure was later contradicted in some empiric investigations, which observed that the opposite relationship may also take place: the case of “*strategy follows structure*”¹³⁰. In this context, if a given

¹²⁷ The present work might also investigate the theoretical interfaces between *process-orientation* and other strategic issues, such as horizontal strategies, strategic networks or other functional strategies. However, the topics discussed here should represent helpful foundations on which these and other interfaces may be developed.

¹²⁸ Bogaschewsky and Rollberg (1998: 21).

¹²⁹ Chandler (1962). Bhattacharya and Gibbons (1996: 48) explained this principle as follows: “The environment decides the strategy which in turn decides the organizational form. The building blocks of the internal organizational structures are the functions, with processes and systems being used as integrating mechanisms”. Another synthesis was proposed by White (1986: 218): “Different strategies pose different administrative requirements, which should be solved by different forms of internal organization”.

¹³⁰ Bhattacharya and Gibbons (1996: 49), Töpfer (1996: 242), Bogaschewsky and Rollberg (1998: 21-22, 200-202). In the case of a *process organization*, where the organizational structure is aligned with the processes, this principle might be understood as “*strategy follows process-oriented structure*”. Differently, Rohm (1998: 18) and Osterloh and Frost (2003: 37) used for that the expression “*structure follows process follows strategy*”.

structure - which is a firm's resource ("wide" meaning) - represents a basis to strategic decisions, a kind of "resource-based" strategy takes place¹³¹.

Considering these interdependences between strategy and structure in the specific context of a *process organization*, two basic ways to identify the role of the processes in the strategy management may be considered: on the one hand, in the view of "*structure follows strategy*", processes are understood as instruments to the *implementation* of strategies, both in a (i) functional and in a (ii) process-oriented structure. In the first case, strategy requirements are the base to define functional goals and structures, which set the demands to the processes. In the second case, the processes follow directly the goals of business strategies: the processes have the strategy as a premise ("*process follows strategy*")¹³². On the other hand, specificities related to existing processes may occasionally represent "strategic resources", which might be main points to the *strategic formulation*. Thus, the set of processes may become an essential element of the strategy creation ("*strategy follows processes*")¹³³. Furthermore, the processes configuration may also characterize a restriction, as its adaptation to support new strategic alternatives may be very expensive or unreachable in the necessary time¹³⁴.

In view of that, the interrelationship between processes and strategies might be summarized as follows (figure 3.16): a set of processes may (1) be adapted (or redesigned) to implement formulated strategies ("*processes follow strategy*") and / or (2) represent the main point of reference (or also a restriction) to the strategy formulation ("*strategy follows processes*")¹³⁵.

¹³¹ It is also argued that, instead of an only one-sided dominance, strategy and structure present an interactive link with each other: "Whilst theoretically, strategy should influence the organizational structure, once this is in place it begins to constrain the strategy process" (Bhattacharya and Gibbons, 1996: 51). Moreover, although structures are the outcome of planned human actions and strategies, structures also influence the human action and, so, the process of strategy creation (Sydow, 1992: 238. See also sources there quoted).

¹³² Schmidt and Treichler (1998: 60).

¹³³ Schmidt and Treichler (1998: 61).

¹³⁴ For example, if a firm has always competed through "low cost" strategies, for which the characteristics of the present operation processes are adequate, it would be necessary a large investment in their adaptation, in order to allow a change to a "differentiation" strategy. Such an obstacle may discourage a firm from changing its competitive strategy.

¹³⁵ This analysis might be developed concerning the views of competitive advantage: In the view of "*processes follow strategy*", there is a MBV feature, as processes are considered just as a strategy's implementing tools; however, "*strategy follows processes*" would be somehow aligned with the RBV, as the processes are related with resources or competences, which may occasionally provide competitive advantage. Further sections of the present work will discuss how a firm's processes are related to strategic resources or competences.

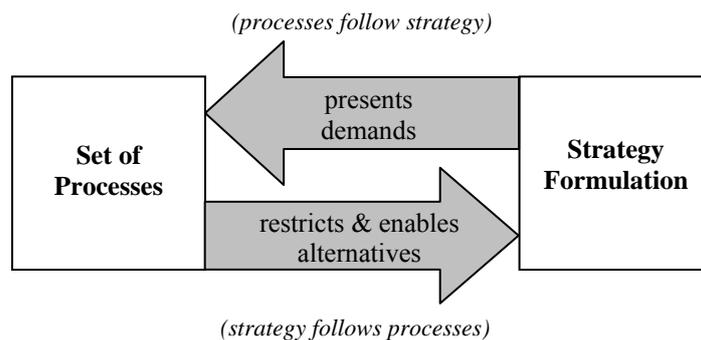


Figure 3.16: A dual dependence between processes and strategy

As processes may be related to the formulation and implementation of strategies, it is also important to understand how the approaches of *processes management* (*improvement* and *reengineering*) concern these phases of strategic management. This is the issue of the next chapter.

3.4.2 Management Approaches and Strategy Formulation and Implementation

As discussed in chapter 3.3, *process improvement* is associated with an incremental, day-to-day optimization of a firm's processes, while *reengineering* concerns radical, leap changes in the process structure. Both rationalization approaches will be essential in the future (if not today) to assure a firm's survival¹³⁶; however, despite their place in the literature, this one does not pay usually much attention to the strategic role of their implementation.

Regarding *process improvement*, the continuous optimization of the existing processes apparently does not change the ways a firm formulates and implements its strategy. Thus, gradual optimization without relation to strategy goes rarely beyond the simplification and results in an incremental reduction of lead time and / or costs. In any case, the actions of processes streamlining are more valuable if they are accomplished in the areas that are strategically important to a firm¹³⁷.

However, a different view about the effect of continuous improvement may be gained with the argumentation that "strategic change is often incremental, emergent, unplanned in the formal sense, and based on learning through small gains"¹³⁸. So, it would be difficult to

¹³⁶ Gomez (1994: 24).

¹³⁷ Davenport (1993: 119).

¹³⁸ Earl (1994: 12). This author associated this thinking with the works of Quinn (1978) and Mintzberg (1987b).

dissociate *processes improvement* from the planning and implementation of a strategy and these features of change through “small steps” would bring the strategy closer to the *improvement* than to *reengineering*¹³⁹.

Several authors identified a failing link of *reengineering* foundations with the strategy issue¹⁴⁰. Yet, there is a common understanding that, as this approach concerns a wide redefinition of the business, such rearrangements should be oriented by the firm’s strategic vision and the redesigned set of processes should build the necessary organizational architecture. Thus, *process reengineering* is dependent on the strategic orientation and is a means by which strategies are implemented and competitive advantages are obtained¹⁴¹.

Yet, *reengineering* may be seen not only as a strategic implementation tool, as it may influence indirectly the formulation of strategies, due to the fundamental changes that occur in many firm aspects. This includes the employees’ strategic behavior, which “leads to changes in the strategic context determination, and therefore influences the strategy-making process”¹⁴².

As shown in the foregoing discussions, *improvement* and *reengineering* approaches are not intended to and apparently do not play an *active* role in the strategy decision-making. However, they are just instruments to the strategy implementation (figure 3.17).

¹³⁹ Earl (1994: 12).

¹⁴⁰ E.g. Earl (1994: 10), Garvin (1995: 36), Treichler and Schmidt (1996: 137). Bhattacharya and Gibbons (1996: 51) also criticized the implementation of reengineering without considering the strategic matter: “The only difference is the replacement of functions by processes as the building blocks of the internal organizational structure. Such a narrow definition and its consequent organizational impact have led to many cynics viewing BPR exercises as euphemisms for cost cutting and head count reduction”. Nippa (1995a: 48-49) added that, in spite of the inherent customer-focus and the effects on the competitive position, the most of the concepts are concentrated on intern aspects of design, and the indications about possible changes of strategic positioning usually are missing.

¹⁴¹ Kaplan and Murdock (1991: 97), Davenport (1994: 353), Treichler and Schmidt (1996: 136), Maier and Laib (1997: 103), Edwards and Peppard (1998: 151-152).

¹⁴² Schmidt and Treichler (1998: 61).

	Strategy Formulation	Strategy Implementation
Process Improvement	Indirect effect through the “crafting strategy” and “logic incrementalism”	Continuous improvement of the existing processes
Process Reengineering	Influences the change of employees behaviour and - indirectly - the strategy formulation	Designs the necessary processes for the strategy implementation.

Figure 3.17: Effect of process management approaches on strategy formulation and implementation

As already commented, *process-orientation* is characterized by the alignment mainly of the organizational structure to the operational processes. Thus, a discussion of their links with the operations strategies (chapter 3.4.3) should also help understanding the relationships between *process-orientation* and strategic management¹⁴³.

3.4.3 Processes and Operations Strategies

As operations have been appointed by influential authors as the decisive factors to explain competitive advantages in some circumstances¹⁴⁴, it is important to clarify the link between processes and operations strategies. With this intent, the following subchapters present an overview on operations strategies and discuss their relationship with *process-orientation*.

3.4.3.1 Operations Strategies

Organizational strategies “are frequently described in terms of a hierarchy of strategies”¹⁴⁵, where three levels are usually differentiated: *corporate*, *business* and *functional* strategies¹⁴⁶. While the first one concerns the choice of the businesses in which the corporation will participate and the allocation of resources among them, *business* strategies specify the scope of each strategic business unit, defining how each one should compete (product-market and competitive strategies). In order to support the *business* strategies, functional areas (such as operations, research and development, marketing, and finance) develop their respective

¹⁴³ As the “main” process-oriented approaches, namely *process improvement* and *reengineering*, are usually associated with enhancements in the operations function, a discussion on the links of *process-orientation* with the strategies to this function will be here prioritized. For an extensive review on the strategic management of logistic processes, see Mikus (2003: 145-216).

¹⁴⁴ See Hayes and Pisano (1994) and Hayes and Upton (1998). David (1993: 190) affirmed that “in most industries, the major costs of producing a product or service are incurred within operations, so production/operations can have great value as a competitive weapon in a company’s overall strategy”.

¹⁴⁵ Acur (2001: 25).

¹⁴⁶ The adequate amount of levels depends, in the practice, on the levels of the organizational structure.

functional strategies¹⁴⁷ (figure 3.18). The appropriate sequence is basically “corporate strategy drives business strategy, which then drives functional strategy”¹⁴⁸.

Corporate Strategy	<p>What set of business should we be in?</p> <ul style="list-style-type: none"> • Selecting the business in which the firm will (and will not) participate. • Acquiring and allocating resources among the selected business to create value for the firm’s public (constituencies).
Business Strategy	<p>How should we compete in XYZ business?</p> <ul style="list-style-type: none"> • Clarifying the boundaries of the business to be served. • Selecting the desired competitive advantage to be pursued.
Functional Strategy	<p>How can this function contribute to the competitive advantages of the business?</p> <ul style="list-style-type: none"> • Determining the base on which the function will support the desired competitive advantage. • Integrating and coordinating the function with other functions to which it interfaces.

Figure 3.18: Three levels of strategy
Source: Acur (2001: 26)

A firm’s operations function “consists of all those activities that transform inputs into goods and services”¹⁴⁹ and its relationship with business strategies has been object of much interest since Skinner’s (1969) work on manufacturing strategy¹⁵⁰. *Operations* strategies are usually viewed as instruments to the implementation of the firm’s vision¹⁵¹, since they are formulated through a typical *top-down* approach “under the umbrella of corporate strategy”¹⁵². The alignment of decisions concerning eight categories corresponds to an

¹⁴⁷ Wheelwright (1984: 82-83), Bhattacharya and Gibbons (1996: 49), Acur (2001: 26-27).

¹⁴⁸ Acur (2001: 26).

¹⁴⁹ David (1993: 189). Bartol and Martin (1991: 370-371) suggested and commented the “common” functions in business organizations as follows: “the *production*, or *operations*, function combines activities directly related to manufacturing a product or delivering a service. *Marketing* focuses in the promotion and sale of products and services. *Human resources* is responsible for attracting, retaining, and enhancing the effectiveness of organizations members. *Finance* is concerned with obtaining and managing financial resources. *Research and development* is responsible for producing unique ideas and methods that will lead to new and/or improved products and services. *Accounting* deals with financial reporting to meet the needs of both internal and external sources. Finally, the *legal* function handles legal matters affecting the organization”.

¹⁵⁰ Adam Jr. and Swamidass (1989: 181), Acur and Bititci (2004: 389), Sáenz (2005: 5). Sometimes the literature uses the terms “operation” and “manufacturing” with the same meaning - see e.g. Bartol and Martin (1991: 667), who employed the term “operations management” when referring to Wheelwright and Hayes’ (1985: 103) discussion on the manufacturing’s strategic role. For a better understanding, the term “manufacturing” is usually applied to “fabrication” areas, while “operations” regards also “services”.

¹⁵¹ See e.g. the definition of “operations strategy” given by Bartol and Martin (1991: 666): “the role played by operations management in both formulating and implementing strategies to achieve organizational goals”. In accordance with that, David (1993: 276) affirmed “a major part of the strategy-implementation process takes place at the production site”.

¹⁵² Acur (2001: 92).

operations strategy: capacity, facilities, technology, vertical integration, workforce, quality, organization, and production planning and control¹⁵³.

Wheelwright and Hayes (1985) proposed four stages of manufacture's strategic role. Starting from the first one, where the manufacture function does not influence the firm's competitiveness, its importance grows until the fourth stage, "when competitive strategy rests to a significant degree on a company's manufacturing capability"¹⁵⁴. On this level, the manufacturing function is recognized as a strategic resource, which allows the gain of competitive advantages through low-cost strategies, for instance¹⁵⁵.

Such an understanding shifts partially the focus of strategy-making from a *top-down* to a *bottom-up* sequence and underlies a known discussion about "operation-based strategies"¹⁵⁶: rather than being just strategy implementers, operations may be the basis for successful strategic attacks and defenses. Although many studies identify the sources of strategic success in the market positioning or in the development of new technologies, Hayes and Upton (1998) argued that sustainable competitive advantages, in several cases, are related to superior operations effectiveness. Given that this one may be related to capabilities "embedded in the company's people and operating processes, [it] is inherently difficult to imitate"¹⁵⁷. The significance of the effectiveness in three specific types of capabilities is appointed¹⁵⁸:

- "Process-based capabilities" are related to "activities that transform material or information" and should provide advantages concerning costs and quality;
- "System (coordination)-based operating capabilities" concern competitive advantages through lead time, range of products and services, customization on demand and new product development; and
- "Organization-based operating capabilities", such as mastering of new technologies, design and introduction of new products, and fast building of new

¹⁵³ Wheelwright and Hayes (1985: 103), Sáenz (2005: 10).

¹⁵⁴ Wheelwright and Hayes (1985: 103).

¹⁵⁵ Wheelwright and Hayes (1985: 103).

¹⁵⁶ Hayes and Upton (1998).

¹⁵⁷ Hayes and Upton (1998: 9).

¹⁵⁸ Hayes and Upton (1998: 15-17).

plants. Such capabilities may be present in most firms; however, a better effectiveness in each type may occur only in some of them, being decisive in some strategic battles.

The sustainability of the related competitive advantages is also linked to the fact that the competitors may not perceive (until it is too late) the potential effectiveness of the involved capabilities¹⁵⁹. More than aligned with the current competitive priorities, such capabilities should be also selected and created, according to the firm's future expectations¹⁶⁰. Considering the possibility of explaining competitive advantages and creating strategies from the existing capabilities, this argumentation on "operations-based strategies" presents a clear resonance with the Resource-based View.

3.4.3.2 Looking for Links between Processes and Operations Strategies

The operational level is maybe the most appropriate one to visualize the benefits of *process-orientation*¹⁶¹; however, this perspective is rarely observed in the studies of *operations* strategies: while there is research mainly on a functional perspective, there is little effort regarding a process-view¹⁶² and the bulk of the concerning works still remains at a conceptual level¹⁶³. Acur concluded that the many faces of "operations strategy management processes" do not look at the existing processes¹⁶⁴ and her research identified 23 "strategy management requirements" for developing an organization's strategic model in dynamic competitive environments¹⁶⁵. Among others, the necessity of looking at processes with more detail was suggested in statements such as:

¹⁵⁹ Hayes and Upton (1998: 9).

¹⁶⁰ Hayes and Pisano (1994: 84). They wrote also "a company must develop a plan for building the capabilities it wants to acquire [...] Corporate strategy must provide a framework for guiding the selection, development, and exploitation of these capabilities" (Hayes and Pisano, 1994: 86).

¹⁶¹ Armistead et al. (1995: 47) explained about "operations management": "the whole subject is based on the concept of managing the transformation process".

¹⁶² Acur (2001: 38).

¹⁶³ Acur (2001: 96). She cited the work of Edward and Peppard (1998), who intended to use the *reengineering* approach to fill the gap between strategy formulation and implementation. In fact, this work highlights the relationship of certain types of business processes with the strategy implementation; however, these authors recognized that their work consisted only in a first step of a more comprehensive model to be deployed (see Edwards and Peppard, 1998: 159).

¹⁶⁴ Acur (2001: 56).

¹⁶⁵ See Acur (2001: 56-74).

- “Operations Strategy for each business unit arises at business processes level”¹⁶⁶;
- “as the operate and support process represent the operations of a business, they should also represent the unit of analysis from an Operations Strategy point of view”¹⁶⁷;
- “operations strategy should consolidate various business process strategies taking into account of various conflicts and trade-off[s] for each business unit”¹⁶⁸.

While Acur (2001) advocated “process-oriented operations strategies”, Bhattacharya and Gibbons (1996) observed that *process-orientation* is not in accordance with conventional functional strategies. Organizational change through, e.g. *reengineering* shifts the focus to the processes and causes conflicts with functional strategies. In this context, these authors look for reasons why “the logical, hierarchical, pre-programmed strategy process, in which the business strategy gets implemented through the functional strategies, does not work well in practice”¹⁶⁹:

*“Is it because it is the business processes, rather than functions, which deliver value to the customer and that it is the reason why organizations are switching to BPR to achieve business improvements? Is it because competences and capabilities rest within processes rather than in functions, as claimed by Prahalad and Hamel (1990)?”*¹⁷⁰

The discussions of Bhattacharya and Gibbons (1996) and Acur (2001) suggested that *process-orientation*, since it is a relatively new perspective, still needs to be integrated to the established theories of strategy deployment. More specifically, their works stressed the

¹⁶⁶ Acur (2001: 64).

¹⁶⁷ Acur (2001: 64).

¹⁶⁸ Acur (2001: 76).

¹⁶⁹ Bhattacharya and Gibbons (1996: 51). They wrote also that “very rarely are functional strategies formulated within their real boundaries in a systematic manner. More particularly, few companies have well articulated functional strategies” (Bhattacharya and Gibbons, 1996: 51).

¹⁷⁰ Bhattacharya and Gibbons (1996: 51). They complemented: “Since each process contains fragmented chunks of different functions, it must have been difficult to translate functional strategies into process strategies. So, in practice, did strategies emerge through ‘stream of decisions’ (Mintzberg) concerning a series of linked activities which constitutes a process?”.

necessity of structuring a perspective of processes in *operations* strategies or even prioritizing the deployment of *process* strategies¹⁷¹ in relation to *functional* strategies.

Some proposals were presented by these authors to add a process view in the operations level. In order to build a model of “operations strategy management process” that satisfies the identified requirements in her research, Acur developed the “Prophesy” (Process-oriented performance headed strategy) process, under the assumption that “strategic objectives need to be systematically deployed to business processes, rather than functions, because it is the business processes that generate value for the business”¹⁷². So, “Prophesy” was intended to link *corporate*, *business* and *process* strategies to connect the highest business objectives with the processes¹⁷³.

Regarding the use of *process* strategies to unfold *business* strategies, Bhattacharya and Gibbons (1998) offered some guidelines to support a strategy formulation that treats the processes as linking elements between strategy and structure: while competences would represent the strategy content, processes would form “the core of the organization structures”¹⁷⁴. In this perspective, the competences are located in different processes, which flow through the different functions (figure 3.19).

In such a view, the strategy formulation is based on the firm’s competences, from which the necessary core processes should be identified and designed. In this context, the setting of the process objectives and strategies should be led by the process teams and *business* strategies should regard only strategic objectives, *core competences*¹⁷⁵ and overall business directions.

¹⁷¹ The literature practically does not define how “process strategies” are. For a rare discussion, see Scholz (1995: 195-201), who proposed a classification that is based on the main indicators of *processes management*: time, quality and costs.

¹⁷² Acur (2001: 9).

¹⁷³ For a further view on the “Prophesy”, see Acur (2001), Acur and Bititci (2003) and Acur and Bititci (2004). This model was proposed by Acur and Bititci (2004) as a tool to integrate the MBV and the RBV at the operations level by the means of business processes; however, it does not seem to represent a balanced approach between the MBV and the RBV, since there is a clear priority of the market perspective through the *top-down* strategy unfolding. Moreover, the possibility of existing potential operations capabilities as a strategic reference, as suggested by Hayes and Pisano (1998) is not considered. This model represents, however, another possible starting point to the development of an integrative instrument between the RBV and the MBV, as demanded in the conclusions of chapter 2.

¹⁷⁴ Bhattacharya and Gibbons (1996: 52). These authors did not clearly consider the existence of a process-oriented organizational structure.

¹⁷⁵ The term “core competence” in the referred work does not concern exactly that one proposed by Prahalad and Hamel (1990). The chapter 4.1.2 will discuss distinct interpretations of this concept.

The *functional* strategies remain important; however, “they would have to be formulated in context of the processes to which they contribute”¹⁷⁶.

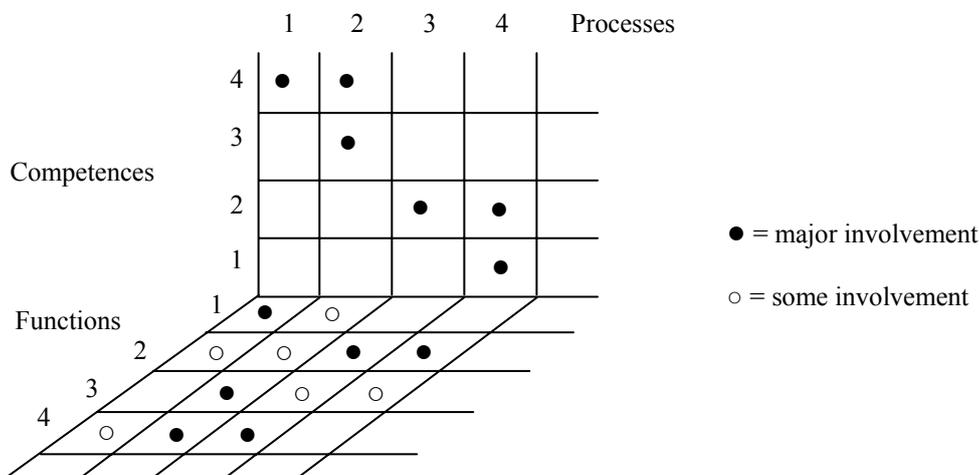


Figure 3.19: Link among processes, competences and functions (representation)
Source: Bhattacharya and Gibbons (1996: 52)

Bhattacharya and Gibbons' (1996) discussion on a strategic formulation that aligns processes and competences is apparently innovative and seems ignored in later researches. Their work mentions an important question to the management of *core competences*, namely their relationship with the processes. Furthermore, this link might help to understand the interfaces between processes and strategy management.

3.5 Summary and Partial Conclusions

Chapter 3 reviewed basic ideas concerning *process-orientation*, with a main interest in its interfaces with the strategy issue. Initially, the discussions resided in the origin of the process thinking, the advantages of *process-orientation* and the main approaches of *process management*, namely *process improvement* and *process reengineering*. Thereafter, chapter 3 explored some links of *process-orientation* with strategic management, with focus on the role of (1) processes and (2) the approaches of *process management* in the formulation and implementation of strategies. Finally, some space was dedicated to debate the links between *process* and *operations* strategies.

Considering the major objective of identifying the interfaces between *process-orientation* and strategic management, some relevant conclusions could be reached in the literature review of the current chapter, such as:

¹⁷⁶ Bhattacharya and Gibbons (1996: 52).

- Sporadic commentaries are found in the literature of *process-orientation* concerning its interfaces with the strategy issue. The main perception is that, although process-oriented concepts have successfully been applied to optimize firms' performance, the concerning discussions, both in the practice and in the literature, (practically) regard only tactical and operational aspects, like improvement of quality, time, flexibility and costs. However, explanations on the role of processes (and related approaches) in the strategy formulation and implementation are usually neglected, with the exception of works on *reengineering*, which stress only the objective of supporting the implementation of strategies.
- Furthermore, there are few indications about *process-orientation* in *operations* strategies. This was unexpected to observe, as process-oriented approaches are usually implemented at the functional level and, moreover, because efficient operation capabilities have been identified as strategic points-of-reference ("operations-based strategies"¹⁷⁷). Considering the apparent theoretical negligence in these links, some suggestions for further investigations may be presented here: (1) to investigate in what grade *process-orientation* was involved in the cases of "successful" operation-based strategies, such as those described by Hayes and Upton (1998). Moreover, (2) to study the possible relationship of the concerning "strategic" operation capabilities with *core competences*. Finally, (3) although the previous suggestions focused on *operation* strategies, the investigations might also be related to other *functional* strategies, since both processes and *core competences* are rooted in different functions.

Concerning the objective defined in chapter 2.6, namely the identification of how *process-orientation* and core competence management (CCM) may play a common role to the integration of the MBV and the RBV, the literature review of chapter 3 could not identify any clear explanation of the interrelationship between either the underlying elements (process and *core competence*)¹⁷⁸ or *process-orientation* and CCM themselves. Due to their importance to the aim of the present research, such links will be further searched in the theoretical foundation of CCM, which is the major issue of the following chapter 4.

¹⁷⁷ See chapter 3.4.3.1.

¹⁷⁸ The work of Bhattacharya and Gibbons (chapter 3.4.3.2) was not very clear concerning the interfaces between competences and processes. However, their work represents a useful contribution to start understanding this interrelationship.

4. Core Competence Management and Process-Orientation

Chapter 4 investigates the *core competence management*¹ with a special interest on aspects related to *process-orientation*, since both processes and *core competences* have been suggested as useful concepts to support an integrated approach of the Market-based and the Resource-based Views². Initially, this chapter deals with the conceptualization of *core competences* and, thereafter, the role of *process-orientation* in models of *core competence management* will be assessed.

4.1 Conceptual Characteristics of Core Competences

After its emergence in the beginning of the 1990's with the works of Hamel and Prahalad³, the concept of *core competence* has been applied in different perspectives. Within them, many works present ideas distinct from those originally proposed, causing a difficult identification of a "common" approach⁴. To demarcate a clear basis to the present work, the main ideas of Hamel and Prahalad will initially be highlighted⁵ and, thereafter, a discussion about other interpretations will be outlined. Finally, some theoretical boundaries for further discussions of the present work will be set out.

4.1.1 The Original Concept of Hamel and Prahalad

4.1.1.1 Getting the Future First: Justifying the Competition on Core Competences

Analyzing the works of Hamel and Prahalad it is possible to identify some key assumptions that underlie the concept of *core competences*. The base of it all is *future-orientation*, which should guide (i) the intent of leadership in the markets of the future, (ii) the competence-based competition at a corporate level, (iii) the integrative feature and (iv) the long-term deployment of *core competences*.

¹ Steinle et al. (1997: 4) affirmed that an efficient management of *core competences* is necessary to transform firm-specific bundles of resources into competitive advantage and strategic success.

² See chapters 2.6 and 3.5.

³ See Prahalad and Hamel (1990), Hamel (1994) and Hamel and Prahalad (1994).

⁴ According to Hinterhuber et al. (1997: 36), most of the authors apply the term *core competence* without explaining how it should be understood.

⁵ Some ideas already presented in chapter 2.4.4.2 need to be shortly repeated here, in order to keep the logic of the argumentation.

The authors started arguing that, in order to gain market leadership in the future, firms should identify new opportunities and take a proactive attitude in launching the industry evolution: *industry foresight* is required to understand the chances and develop necessary competences before rivals do⁶. The future plays a key role: “getting the future first” would allow a firm (1) to establish a virtual monopoly in a product category, (2) to set standards and to earn royalties from property rights, and (3) “to establish the rules by which other companies will have to compete”⁷. Therefore, firms should manage their resources to “create the future”⁸ and the key challenges are “to preemptively build the competencies that provide gateways to tomorrow’s opportunities, as well as to find novel applications of current core competencies”⁹. In accordance with that, Hamel and Prahalad described three stages of the “competition for the future” where *core competences* play a very important role (figure 4.1): “competition for *industry foresight* and *intellectual leadership*, competition to *foreshorten migration paths*, and competition for *market position and market share*”¹⁰.

The preparation for future competition concerns technologies, customer needs, distribution channels, product features and demand expectations¹¹. The result is the design of a “strategic architecture” that specifies what new benefits (“functionalities”) will be offered to the customers¹², what *core competences* and what interfaces with the customers should be built¹³. With regard to competence acquisition a *strategic architecture* informs what should be done today to dominate future markets¹⁴, moreover, an “emotional” component is also necessary to move a firm towards the expected change: a “strategic intent” should be stated,

⁶ Hamel and Prahalad (1996: 79).

⁷ Hamel and Prahalad (1996: 195). These authors complemented: “the goal for any company intent on capturing a significant share of future profits in a new opportunity arena is to maximize its share of influence over the trajectory of industry development” (Hamel and Prahalad, 1996: 203).

⁸ Hamel and Prahalad (1996: 35).

⁹ Hamel and Prahalad (1996: 217).

¹⁰ Hamel and Prahalad (1996: 50) (original in italics). It is important to observe that the management of “core competences” concerns only a part of the “competition for the future”, as represented in figure 4.1. For the whole context in which this “competition” takes place see Hamel and Prahalad (1996).

¹¹ Hamel and Prahalad (1996: 135-136).

¹² Hamel and Prahalad (1996: 219) complemented: “The commitment a firm makes to building a new core competence is a commitment to creating or further perfecting a class of customer benefits, not a commitment to a specific product-market opportunity”.

¹³ Hamel and Prahalad (1996: 118).

¹⁴ Prahalad and Hamel (1990: 89), Hamel and Prahalad (1996: 25).

which forces the “stretch” of the current resources and capabilities to the expected levels¹⁵. To provide this “stretch”, firms may make use of different approaches of “resources leverage”¹⁶.

Intellectual Leadership	Management of Migration Paths	Competition for Market Share
Gaining industry foresight by probing deeply into industry drivers.	Preemptively building core competences, exploring alternate product concepts, and reconfiguring the customer interface.	Building a worldwide supplier network.
Developing a creative point of view about the potential evolution of: <ul style="list-style-type: none"> • Functionality • Core Competences • Customer Interface 	Assembling and managing the necessary coalition of industry participants.	Crafting an appropriate market positioning strategy.
Summarizing this point of view in a “strategic architecture”.	Forcing competitors onto longer and more expensive migration paths.	Preempting competitors in critical markets.
		Maximizing efficiency and productivity.
		Managing competitive interaction.

Figure 4.1: Three phases of the “competition for the future”
Source: Hamel and Prahalad (1996: 52)

Competition through *core competences* occurs at a corporate level¹⁷, because “opening the door to many of tomorrow’s mega-opportunities will require significant resources”¹⁸ and this

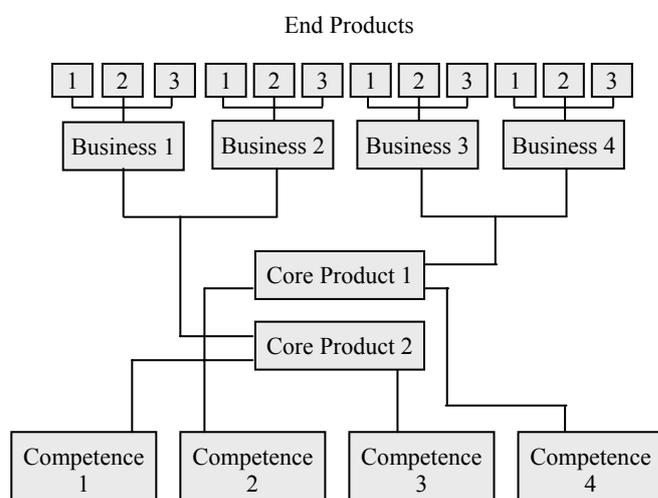
¹⁵ Hamel and Prahalad (1996: 139-161). *Strategic intent* represents “a particular point of view about the long-term market or competitive position that a firm hopes to build over the coming decade or so [...] Strategy intent has an emotional edge to it; it is a goal that employees perceive as inherently worthwhile” (Hamel and Prahalad, 1996: 142). However, *strategic intent* “also encompasses an active management process that includes focusing the organization’s attention on the essence of winning, motivating people by communicating the value of the target, leaving room for individual and team contributions, sustaining enthusiasm by providing new operational definitions as circumstances change, and using intent consistently to guide resource allocations” (Hamel and Prahalad, 1989: 64). Examples of *strategic intent* in firms that became market leaders are “The World’s Favourite Airline” at British Airways (Hamel and Prahalad, 1996: 141), “encircle Caterpillar” at Komatsu and “beat Xerox” at Canon (Hamel and Prahalad, 1989: 64).

¹⁶ For more explanations on “resources leverage”, see Hamel and Prahalad (1996: 175-193). These authors justified the application of these approaches as follows: “By sufficiently *concentrating*, efficiently *accumulating*, creatively *complementing*, carefully *conserving*, and speedily *recovering* resources, firms close the gap between where they are and where they want to be” (Hamel and Prahalad, 1996: 191-192). Blohm (2000: 265-266) called these approaches “core competence-based strategic options”.

¹⁷ Prahalad and Hamel (1990: 91).

¹⁸ Hamel and Prahalad (1996: 298). They exemplified the argument using the following commentary: “it is difficult to imagine a small or medium-sized company building the infrastructure that will be required for interactive television” (Hamel and Prahalad, 1996: 298). These authors affirmed also that “often, an individual business unit can sustain neither the investment nor the patience to build a new core competence” (Hamel and Prahalad, 1996: 244).

involves high investment, risk-taking and long time to develop the necessary capabilities¹⁹. Moreover, it is very unlikely that these are all present in one single business unit. Thus, a corporation has the task “to bring these competencies together at the appropriate point within the organization”²⁰. *Core competences* are behind a range of products and services offered by distinct business units and affect the competitiveness of the whole firm, since the success or lose in the battle for competence leadership leads to serious effects in a corporation’s profits²¹. Accordingly, corporations should be understood as portfolios of *core competences* and not of individual business units²². Figure 4.2 illustrates the metaphor of “corporation as a tree”, which symbolizes the relationship between a firm’s *core competences* and business units.



“The diversified corporation is a large tree. The trunk and major limbs are core products, the smaller branches are business units; the leaves, flowers, and fruits are end products. The root system that provides nourishment, sustenance, and stability is the core competence”.

Figure 4.2: Competences are the roots of competitiveness
Source: Adapted from Prahalad and Hamel (1990: 81-82)

“Competition for competence takes place at four levels”²³: (1) development and acquisition of skills and technologies that will constitute a *core competence*, (2) synthetisation of these different skills and capabilities in *core competences*, (3) maximization of the share of core

¹⁹ Hamel and Prahalad (1996: 34-35, 222-223).

²⁰ Hamel and Prahalad (1996: 35). In this context, the integration of skills in different organizational units “is the distinguishing hallmark of a core competence” (Hamel, 1994: 11).

²¹ Hamel and Prahalad (1996: 221-222). These authors affirmed that “competition for competence is not product versus product, or even business versus business. It is corporation versus corporation” (Hamel and Prahalad, 1996: 221).

²² Hamel and Prahalad (1996: 90).

²³ Hamel and Prahalad (1996: 233). Discussions concerning the three first levels will be developed in chapter 5.2. The fourth level concerns typical product-market strategies, which should complement the *core competences* perspective (Hamel and Prahalad, 1996: 258).

products²⁴, and (4) “competition to maximize end product share”. Although the latter is a focus of most strategy texts, it represents just the final element of the whole competitive chain.

Moreover, it should be clear that the gain of market leadership through *core competences* is a long-term process: “the relevant timeframe for exploring and conquering a new opportunity arena may be ten years, twenty years, or even longer [...] Leadership in fundamentally new industries is seldom built in anything less than 10 or 15 years”^{25,26}.

4.1.1.2 Characterizing *Core Competences*

Hamel and Prahalad did not present a single definition of the concept of “*core competence*”, but introduced this term through several explanations, where it is understandable that a *core competence* concerns a kind of capability²⁷, which is related to the integration and coordination of capabilities²⁸ and technologies²⁹. Thus, a *core competence* “is just what the name implies: an aptitude, a skill”³⁰ and not things such as a “factory, distribution channel, brand, or patent”³¹. Figure 4.3 shows which capabilities were related to some examples of *core competences*.

²⁴ Chapter 5.2.3 will deal with the concept of “core product”.

²⁵ Hamel and Prahalad (1996: 37). These authors assumed often that this is the necessary time-range for the development of world leadership in a *core competence* area (see e.g. Hamel and Prahalad, 1996: 199, 217, 254).

²⁶ The consideration of “world” leadership as a goal in thinking on *core competences* is clear in this affirmation: “At the level of core competence, the goal is to build world leadership in the design and development of a particular class of product functionality” (Prahalad and Hamel, 1990: 85).

²⁷ The association with capabilities is clear, as in the following phrases: “We have used repeatedly the term core competence to describe the capabilities that underlie leadership in a range of products and services” (Hamel and Prahalad, 1996: 217) and “To qualify as a ‘core’ competence a capability must also be competitively unique” (Hamel, 1994: 12).

²⁸ The term “skill” was also applied as a synonym for capability and competence. Similarly, *core competence* was also defined in these terms: “Core competencies are the skills that enable a firm to deliver a fundamental customer benefit” (Hamel and Prahalad, 1996: 224).

²⁹ Technology was defined as the knowledge of commercially relevant answers to scientific problems, which is (1) linked immaterially to people, (2) documented on media or (3) embodied in technical systems (artefacts and/or processes as problem-solving or means to problem-solving) (Fischer, 2002: 23. See also other sources quoted there). Accordingly, as a form of knowledge, a technology should be understood as a resource, but the ability of using this technology represents a capability.

³⁰ Hamel and Prahalad (1996: 229).

³¹ Hamel and Prahalad (1996: 228).

Firm	Core competence	Capabilities
Motorola	fast cycle-time production	Design disciplines of product line, flexible manufacturing, sophisticated order-entry systems, inventory management and supplier management.
Federal Express	package routing and delivery	Integration of bar-code technology, wireless communications, network management and linear programming.

Figure 4.3: Examples of core competences and their capabilities
Source: Hamel and Prahalad (1996: 223-224)

It is also important to understand that *core competences* are the “how to coordinate and apply” diverse capabilities, and not simply a given bundle of skills and technologies. Moreover, Hamel and Prahalad also highlighted that a *core competence* is built of the accumulative learning in the different business units³².

Three conditions were defined to identify if a certain competence may be a “core” one: *customer value*, *competitor differentiation* and *extendability*³³.

Customer Value

The offer of “functionality” is a basic feature of a *core competence*, which “enables a company to provide a particular benefit to customers”³⁴. This benefit is the important and visible thing to the customer, and not necessarily the technical nuance of the capability. For instance, Honda’s “know-how in engines” is not directly perceived by customers, but only the product features (the engine’s performance). Figure 4.4 shows examples of *core competences* and corresponding customer benefits:

³² Several statements highlight also this learning aspect, such as: (core competences are) “the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies” (Prahalad and Hamel, 1990: 82), “a core competence represents the sum of learning across individual skill sets and individual organizational units” (Hamel and Prahalad, 1996: 223) and “a core competence is not an inanimate thing, it is an activity, a messy accumulation of knowledge” (Hamel, 1994: 12).

³³ Hamel and Prahalad (1996: 224-228).

³⁴ Hamel and Prahalad (1996: 219).

Company	Core Competence	Benefits (Functionalities)
Sony	Miniaturization	Pocketability
FedEx	Logistics management	On-Time delivery
Wal-Mart	Logistic	Choice, availability, value
EDS	Systems integration	Seamless information flows
Motorola	Wireless communication	'Untethered' communication

Figure 4.4: Examples of core competences and their customer benefits
Source: Adapted of Hamel and Prahalad (1996: 219)

An exception to this test of “customer value” occurs when a firm’s process and manufacturing-related competences enable some cost advantages. These are not necessarily perceived by the customers but provide gains to the firm³⁵.

Competitor Differentiation

In order to provide competitive advantage, a *core competence* must be singular in comparison with the rivals. It does not need to be owned by a single firm, but its “performance” at a given firm should be superior to those of rivals, as in the case of “powertrains”, which are *core competences* of Honda, but not of Ford³⁶.

Extendability

A *core competence* should enable a firm to enter new markets through its application in innovative products³⁷. Thus, the design of a *core competence* requires realizing its utilization in future opportunities:

“While a particular competence may be core in the eyes of a single business, in that it meets the test of customer value and competitive uniqueness, it may be not a core competence from the point of view of the corporation if there is no way of imagining an array of new products or services issuing from the competence”³⁸.

³⁵ Hamel and Prahalad (1996: 226).

³⁶ Hamel and Prahalad (1996: 226).

³⁷ Hamel and Prahalad (1996: 227-228), Hamel (1994: 15).

³⁸ Hamel and Prahalad (1996: 227).

This suggests that a competence located at a business unit might even be a “core” one. Such a case, however, is not further discussed in the works of Hamel and Prahalad, who clearly developed this concept for “corporate” *core competences*³⁹.

4.1.1.3 Summarizing the Concept of Prahalad and Hamel

Rumelt identified four key components in Prahalad and Hamel’s concept of *core competences*⁴⁰:

1. “*Corporate Span: core competencies span business and products*”,
2. “*Temporal dominance: products are momentary expressions of a corporation’s core competences. Competences are more stable and evolve more slowly than do products*”,
3. “*Learning by doing: competencies are gained and enhanced by work*”, and
4. “*Competitive locus: product-market competition is usually the superficial expression of a deeper competition over competencies*”⁴¹.

Other features may also be perceived in the present review:

- i. An explicit *future-orientation* underlies the argumentation: the building of *core competences* should follow a proactive action that looks for (world) market leadership in the “competition for the future”⁴²;
- ii. Conquering market leadership is a long-term process, requiring the development of a corporate *strategic architecture* that guides the building of *core competences*;
- iii. The concept of *core competences* was formulated to the context of corporate diversification, as e.g. in the basic examples of Canon and Honda⁴³.

³⁹ Prahalad and Hamel’s (1990) seminal work on this concept was clearly entitled “The Core Competence of the Corporation”. As argued in chapter 4.1.1.1, Prahalad and Hamel considered it unlikely that a *core competence* may be present at a single business unit; since it seems difficult that such a unit alone may own a capability that matches the conditions of “Customer Value”, “Differentiability” and “Extendability to new markets”, besides supporting the creation and leadership of the “markets of the future”.

⁴⁰ Rumelt (1994: xv-xvi).

⁴¹ See Rumelt (1994: xvii): “the concept of core competences admits a proactive construction of competences, sees competences as spanning multiple business, and, most importantly, sees competitors as being over the acquisition and development of competence”.

⁴² Hamel and Prahalad (1996: 308) state clearly that: “our focus in this book [...] is the creation of future-oriented corporate strategy”.

Figure 4.5 schematizes the links among important characteristics of Hamel and Prahalad's discussions on *core competences*, as argued in the present chapter 4.1.

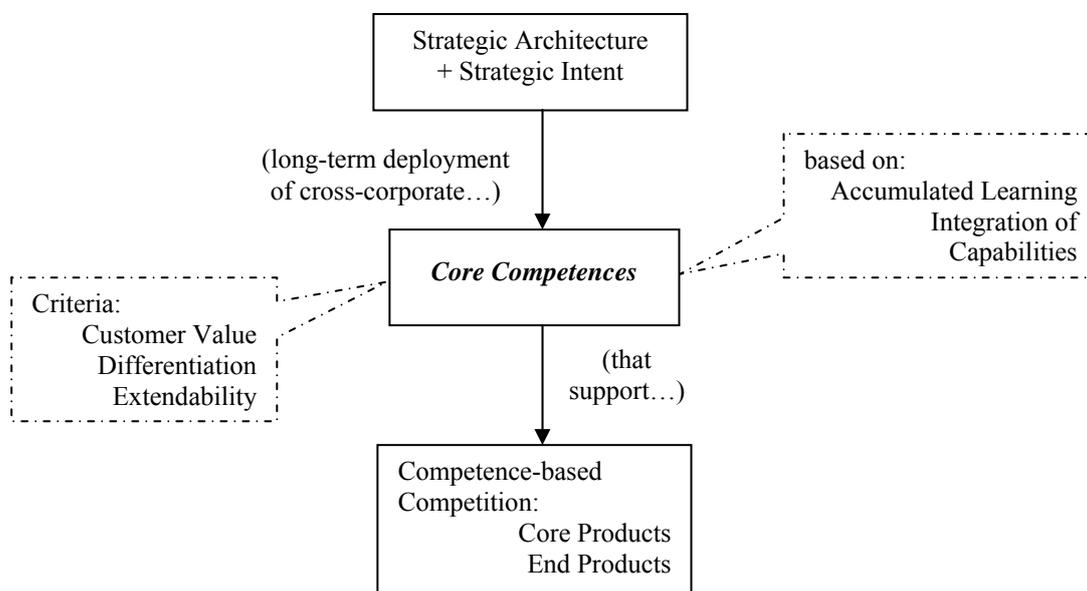


Figure 4.5: The context of *core competences* in the work of Hamel and Prahalad

Although most of the works on *core competences* have been developed in accordance with the characteristics presented above⁴⁴, it may be observed that the utilization of this concept ranges from a “pure” original perspective, where the characteristics synthesized in chapter 4.1.1.3 are closely assumed, to a kind of “umbrella” term that covers other types of capability (or even anything) that may provide competitive advantage⁴⁵. Thus, a close reading of each work is necessary to evaluate its correspondence with Hamel and Prahalad's ideas. Chapter 4.1.2 will analyze these ‘extended’ interpretations, evaluating differences between them and the seminal assumptions of *core competences*.

⁴³ Barney (2002: 157) commented that “General practice seems to suggest that core competencies are restricted to firm attributes that enable managers to conceive of and implement certain corporate diversification strategies”.

⁴⁴ This statement was supported by the evaluation of the following international journals, which contain the most representative works on the RBV, since 1990: *Academy of Management Review*, *California Management Review*, *Harvard Business Review*, *Long Range Planning*, *Management Decision*, *Management Science*, *Managerial and Decision Economics*, *Organizational Science*, *Sloan Management Review* and *Strategic Management Journal*. Moreover, the proceedings of the most important Brazilian yearly conferences in business administration (EnANPAD, 3Es and EnEO) since 1997 were also evaluated. Examples in German consistent with Hamel and Prahalad's work are e.g. Lehmann (1993), Osterloh (1994) and Berger and Kalthoff (1995).

⁴⁵ These “alternative” concepts belong also to the scope of the RBV; however, they are not necessarily in accordance with the meaning of *core competence* presented by Hamel and Prahalad.

4.1.2 Extended Concepts of *Core Competence*

The following “interpretations” are regularly found in the literature and will be explained in the following discussion: (a) the term “core competence” is used as a synonym for other concepts, (b) a *core competence* is a “unique bundle of resources”, (c) *core competences* are identified as a “strategic resource” and (d) *core competences* occur in “non-corporate” organizational units.

a) The term “*core competence*” is often considered as a synonym for other concepts, especially (i) “distinctive competence”, (ii) “core capability” and (iii) “strategic capability”⁴⁶:

(i) *Distinctive competences* represent capabilities that provide competitive advantage because they are better than those of competitors⁴⁷. While every *core competence* presents this characteristic (due to the criterion “differentiation”), a *distinctive competence* would also need other features to be a *core competence*, e.g. the extendability and the integrative characteristic. Thus, this one involves aspects a *distinctive competence* does not have. Despite the differences, the former is frequently explained through terms associated with the definition of the latter⁴⁸.

(ii) Leonard-Barton affirmed that “capabilities are considered *core* if they differentiate a company strategically”⁴⁹ and also defined “a core capability as the knowledge set that distinguishes and provides a competitive advantage”⁵⁰. Although these explanations may well characterize a “core capability”, this term was also taken up - without further justifications - as an equivalent of “core competence”,

⁴⁶ Zahn (1996: 885), Steinle et al. (1997: 1) and Koruna (1999: 30) identified terms frequently used as equivalent to *core competences* in the literature: *core capabilities*, *core skills*, *strategic capabilities*, *distinctive competences*, *strategic assets*, *metaskills* and *distinctive capabilities*. Unfortunately, these authors did not discuss differences and similarities among these concepts, what may suggest that they are assumed as synonymous.

⁴⁷ See chapter 2.4.1.

⁴⁸ For example, Grønhaug and Nordhaug (1992: 440) wrote that a *core competence* “is what a firm is able to perform with excellence compared to its competitors” and Snyder and Ebeling Jr. (1992: 27) affirmed that “real core competences are tangible value-added activities that are performed more effectively and at lower cost than that of the competition”. Moreover, other authors associated Hamel and Prahalad with works about “distinctive competencies”, not “core competences” (e.g. Marcus and Geffen, 1998: 1145-1146).

⁴⁹ Leonard-Barton (1992: 111).

⁵⁰ Leonard-Barton (1992: 113). Her work is a known contribution of the RBV, due to a discussion on “core rigidities”, which consist in the negative influence of existing *core capabilities* in supporting new products or projects, as these ones require different skills than the existing ones (see Leonard-Barton, 1992).

“distinctive competence”, “invisible asset” and “dynamic capability”, among others⁵¹. Yet, *core capabilities* do not necessarily involve, for instance, (1) the extendability to new products or markets or (2) the integration of different skills and technologies, as required for *core competences*. Even if the focus of Leonard-Barton was not on terminological matters, her work influenced many authors to use these terms interchangeably, although there is no further argumentation associating the definitions of *core competence* with those of *core capability*. Thus, both should not be considered as the same concept^{52,53}.

(iii) “Strategic capabilities”⁵⁴ are also often associated with “core competences”⁵⁵; yet, this equivalence has no theoretical basis; even because both concepts were considered divergent by their “creators”⁵⁶. A consequence of this misleading “synonymization” of terms is that the work of Stalk et al. is frequently referred to

⁵¹ See Leonard-Barton (1992: 111-113). Teece et al.’s (1997) definition of *dynamic capabilities* (chapter 2.4.4.2) was even mentioned as “one of the clearest definitions” of *core capabilities* (Leonard-Barton, 1992: 112).

⁵² For works that use Leonard-Barton’s text to support explanations on *core competences*, see e.g. Boos and Jarmai (1994: 20), Reiß and Beck (1995: 37), Thiele (1997: 69), Fiol (2001: 692) and Wilkens et al. (2004: 11). However, the adopted equivalence of “core capability” and “core competence” does not always refer to Leonard-Barton’s work, since this one is not even cited, as in Lehmann (1993) and Meyer and Utterback (1993).

⁵³ This confusion of the terminology was probably influenced by the fact that Hamel and Prahalad applied the terms “capability” and “competence” interchangeably. However, they never used “core capability” as a synonym for “core competence”. Concerning the German literature, Thiele (1997: 71) affirmed that “capabilities” and “competences” are normally applied with the same meaning. Hümmer (2001: 85), in turn, identified a possible standard in the use of “capability” and “competence”: while the latter is relatively often applied in connection to superior combination of resources in the areas of technology or production, the term “capability” is frequently used in the context of organizational routines and processes.

⁵⁴ Stalk et al. (1992) related the term “strategic capabilities” to competences that are behind processes that provide competitive advantages.

⁵⁵ For instance, Blohm (2000: 2) and Bouncken (2000: 867) referred to Stalk et al.’s text to justify discussions on “core competences”.

⁵⁶ Stalk et al. (1992: 66) contested the importance that Prahalad and Hamel gave to the *core competences* in the explanation on Honda’s competitive advantage: “whereas core competence emphasizes technological and production expertise at specific points along the value chain, capabilities are more broadly based, encompassing the entire value chain”. These authors understand that Honda’s success was not only based on the *core competences* in engines and powertrains, but also on an expertise in “dealer management” and “product realization”. Hamel and Prahalad (1992: 165), in turn, disagreed with this argument and affirmed that the competitive advantages are related to a disproportionate contribution to the value perceived by the customer, which is provided by *core competences*, and thus “it is clear that the engine, not the dealer management skills or any other capability, provided the growth logic for Honda’s expansion”. Hamel and Prahalad (1996: 224-225) considered Honda’s management of dealer relationships only as a “secondary” capability, not as a *core competence*.

justify the benefits of *process-orientation* to *core competences*⁵⁷. However, while *strategic capabilities* strongly involve *process-orientation*⁵⁸, this one was not related to *core competences* in the works of Hamel and Prahalad⁵⁹. Thus, the association of *process-orientation* with the discussion on *core competences* on the basis of the work of Stalk et al. (1992) seems very inappropriate, although it is frequently mentioned⁶⁰.

- b) *Core competence* has occasionally been defined as “a unique bundle of resources”⁶¹. If this bundle has a defensible inimitability and offers value to the customer, then it might provide long-term rents (figure 4.6). Thus, the criteria *customer value* and *extendability* would not even be necessary to characterize a *core competence* and this interpretation is clearly not in accordance with Hamel and Prahalad’s proposal. Despite the failing relationship with the original definition, the understanding of *core competences* as “a unique bundle of resources” deserved replication in further works^{62,63}.
- c) *Core competences* are identified by the same criteria as used for “strategic resources”: Instead of applying Hamel and Prahalad’s criteria to the identification of a *core competence*, some authors used those of Barney (1986b, 1991, 2002) to characterize resources that may provide sustainable competitive advantages⁶⁴. Clearly, the

⁵⁷ For examples of misleading associations, see Bouncken (2000: 868) and Hümmel (2001: 86).

⁵⁸ See Stalk et al. (1992: 62): “Competitive success depends on transforming a company’s key processes into strategic capabilities” and “A capability is a set of business processes strategically understood”.

⁵⁹ In chapter 4.2.2 there will be some evaluation on how *process-orientation* was considered by Hamel and Prahalad.

⁶⁰ Another case of terminology problem: Suter (1995) and Petts (1997: 552-553) used the term “core capabilities” when they discussed Stalk et al.’s “strategic capabilities”.

⁶¹ Rühli (1995: 94-95). Without stressing the “unique” condition Edge et al. (1995: 191) made a similar affirmation. They recognized the existence of terminological misunderstandings in the literature and assumed, with regard to their work, that *core competences* are a grouping of skills that is economically coherent and is reflected in all or the most of a firm’s products.

⁶² As e.g. in Gaitanides and Sjuris (1995: 63-64), Strasmann and Schüler (1996b: 10-11) and Steven and Behrens (2000: 454).

⁶³ The works of Rühli (1994, 1995) show several misleading associations of *core competences* with other concepts discussed in the RBV. For instance, (1) although Hamel and Prahalad defined clearly that a *core competence* is a capability (see chapter 4.1.1.2), Rühli (1994: 44) commented that financial and facility resources may also constitute *core competences*. Moreover, (2) Rühli (1994: 45-47) associated *core competences* with discussions of Hall (1992: 141) and Peteraf (1993: 47) that dealt, respectively, with *intangible resources* and the heterogeneity of *any* resource. Finally, (3) Rühli (1994, 1995) used “core competences” interchangeably with “core capabilities”, without any reference to the similar term proposed by Leonard-Barton (1992).

⁶⁴ In one case, Welge and Al-Laham (2008: 386) commented that the VRIO framework (chapter 2.4.3.1.2) is also a schema for the identification of *core competences*. In another case, in order to “improve the

extendability to new products and markets is not assessed in these criteria, thus, these ones are not enough to recognize a *core competence* in its original conceptualization.

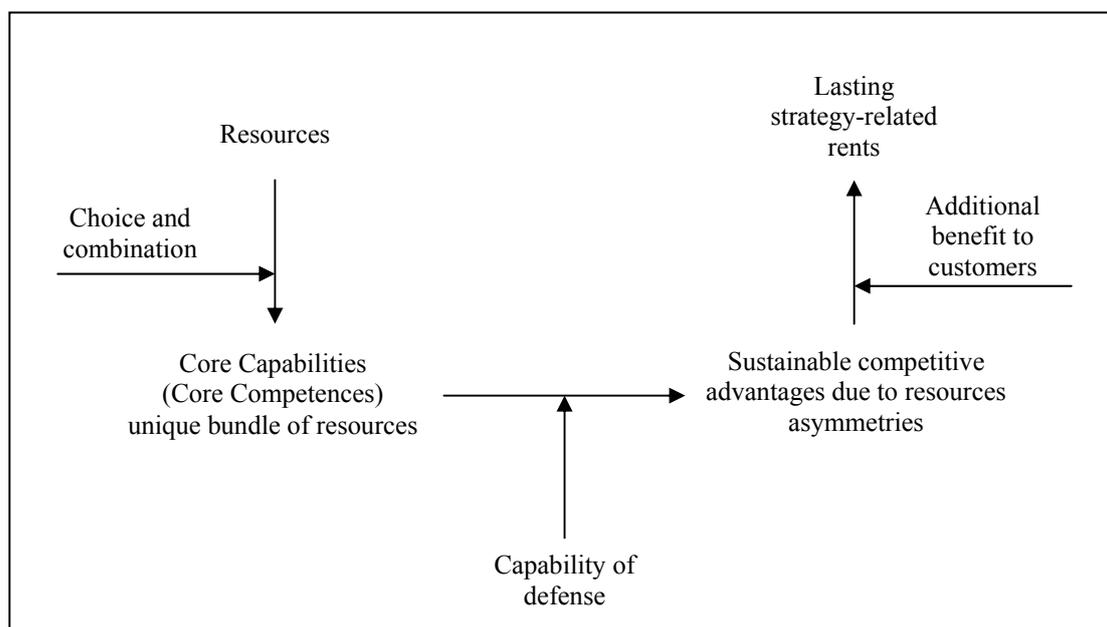


Figure 4.6: Basic interrelationship of the RBV (by Rühli)
Source: Rühli (1994: 43) (translated)

- d) *Core competences* present in non-corporate organizational units: Although this concept was proposed to corporations⁶⁵, *core competences* have been identified without appropriate justification to any kind of organizational units^{66,67} or public administration⁶⁸.

applicability of the concept”, Rogulic (1999: 52-53) chose Barney’s (1991: 112) criteria to recognize *core competences*: value, rareness, imperfect imitability and imperfect substitutability. A further misunderstanding provided Helleloid and Simonin (1994: 215), who commented that “organizational culture could also be a core competence and a source of competitive advantage (Barney, 1986b)”. In his work the quoted author had proposed three criteria a firm’s organizational culture should present in order to be a source of sustainable competitive advantage (“valuable, rare, and imperfect imitable” - Barney, 1986b: 663); however, he could not discuss *core competences*, since Prahalad and Hamel (1990) would introduce this concept just four years later. Moreover, organizational culture is not a capability, although it is an intangible resource.

⁶⁵ See chapter 4.1.1.2.

⁶⁶ For example, Treichler and Schmidt (1996: 139) identified the *core competences* of a bank’s “service center of process and technology management”. The authors recognized (although “hidden” in the endnotes) that these *core competences* do not correspond to the bank’s corporate ones. Moreover, although they mentioned the application of Prahalad and Hamel’s (1990: 83) criteria to identify these *core competences*, their text said nothing about the criteria “potential access to a wide variety of markets”.

⁶⁷ Boos and Jarmai (1994: 20) commented that the *core competences* approach is, in many firms, applied only in a single business area. This means, however, to equate *core competences* with “potentials for success” (*Erfolgspotential*). Thus, new knowledge and impulses to cross-functional and business-generating development would arise casually and the multiplication effects are missed.

⁶⁸ See Gabor (1991) and Waddell (2002).

Some common differences of these and other “extensions” of the “basic context” of Hamel and Prahalad may be identified: there are usually no discussions concerning, for instance, the “future competition”, the “extendability to new products and markets” and the corporate-wide integration of skills. Some reasons may be hypothesized to explain the emergence of “diverging” approaches, such as:

- the lack of a uniform terminology in the RBV⁶⁹, which does not present even a common interpretation of the term “resource”. Moreover, such a deficiency has further been expanded in inconsistent translations and “interpretations”⁷⁰;
- the difficulty in understanding the complex idea of “core competence”⁷¹; and
- the intention by researchers and consulting companies of translating the concept in something more “applicable”⁷².

Similarities of “extended” concepts may be identified: (1) they differ from Prahalad and Hamel’s perspective regarding terminology, as well as in the characterization of *core competences*⁷³, (2) they deal on a clear “inside-out” view of the creation of firm-specific *strengths*⁷⁴, (3) they share a view of accumulation of implicit and explicit knowledge⁷⁵ and (4) they assume that (a) *core competences* emanate from a firm’s resources stock, (b) these resources represent *strengths* and (c) competitive advantages may result from their application⁷⁶.

⁶⁹ This observation also derives from the works of Hamel and Prahalad, who used the terms “capability”, “competence” and “skill” interchangeably. The only exception concerned the “core competence”, since this one represents a special case of capabilities.

⁷⁰ Thiele (1997: 68) commented that, due to translation conditions, the plurality of the terms in the English RBV literature was even expanded in German language.

⁷¹ According to Hinterhuber et al. (1997: 40), the notion that *core competences* represent an integrated whole, which embraces practical and theoretical knowledge, makes it often difficult to depict them in the practice.

⁷² Coyne et al. (1997: 43) commented on this aspect: “While most of the examples in Hamel and Prahalad’s article concerned knowledge of one or more technologies, executives have extended the idea of one core competence to cover many types of skills and functions, including process engineering, production, new product idea generation, and even corporate identity. They treat everything as a potential competence”.

⁷³ Hümmer (2001: 80).

⁷⁴ Krüger (1995: 8, cited in Rohm, 1998: 138).

⁷⁵ Zahn (1996: 885-886).

⁷⁶ Stevens and Behrens (2000: 453).

Some authors observed that since the emergence of the discussion on *core competences* there would be (1) an approximation to other perspectives, such as personal management and processes of organizational change⁷⁷, and (2) an expansion from the side of technology and production capabilities to include soft skills also⁷⁸. Moreover, it was also argued that other categories of resources (apart from the technological know-how), such as human, financial, physical or organizational resources, might constitute a *core competence*⁷⁹. As reason to justify these “adaptations” of Prahalad and Hamel’s conceptualization, a (allegedly restricted) technological context has been appointed⁸⁰, which would have little relevance to the practice since only a few firms would be able to own *core competences*⁸¹. However, such claims for an “easy applicable” or “non-technological” concept of *core competence* are not in accordance with its underlying theory, for at least two reasons:

1. The discussion on *core competences* was clearly introduced to the corporate-level competition; thus, this approach was not deployed to any kind of firms, but only to those that are in a position to apply such a complex concept. Moreover, as the argumentation of Hamel and Prahalad was based on the intent of creation and leadership of (world) future markets, the idea that any firm should be able to deploy and own *core competences* seems unrealistic.
2. The term *core competence* was defined as a capability of integration and coordination of different skills and technologies⁸², therefore, *core competences* involve necessarily technological aspects, as it may be seen in all examples of Hamel and Prahalad.

The existence of different “perspectives” on *core competences*, in the form they were identified here, does not mean that just some of them are correct or that there is a “right”

⁷⁷ Strasmann and Schüller (1996a: 3).

⁷⁸ Berger and Kalthoff (1995: 161-162).

⁷⁹ Rühli (1995: 44).

⁸⁰ This “limitation” on technological capabilities of Hamel and Prahalad’s *core competences* is reflected in frequent commentaries, such as those of Berger and Kalthoff (1995: 161-162), Steinle et al. (1997: 2), Strasmann and Schüller (1996a: 2-3), Rohm (1998: 140), Blohm (2000: 240), Steven and Behrens (2000: 453) and Hümmer (2001: 85).

⁸¹ Stevens and Behrens (2000: 453).

⁸² See chapter 4.1.1.2. If a given “intangible resource” (as a certain personal skill or knowledge) is occasionally identified as a *core competence* without this “integrative” characteristic, it concerns probably a mere strategic resource, which may be identified by the VRIO framework. Maybe this was the case approached by Pisano (1995: 35): “The relationship between a hospital and its doctors should be a core competence”.

one: they all provide the theory with different approaches than those of Hamel and Prahalad. However, these “adaptations” of the original concept have not been accompanied by an adequate theoretical contextualization, such as those of “getting the future first” and the *strategic architecture*, which supported the proposition of the concept of *core competences*.

Due to the inexistence of a common interpretation, each work about *core competences* should clearly set out the considered theoretical references; otherwise it is not possible to know “what” *core competence* it is being talked about. Without underestimating later contributions, but looking for clear theoretical boundaries, the present research will assume the work of Hamel and Prahalad as the “basic reference” of *core competences*^{83,84}. In accordance with that, the content of chapter 4.1.1.3 is adopted as a summary of these authors’ perspective and will underlie the following discussions.

So far, chapter 4 intended to highlight important features of the “theory” of *core competences*; however, their management was not approached yet. Considering the interest of understanding the interface of business processes (and the concerning *process-orientation*) with *core competences*, as it has been indicated in the previous chapters, chapter 4.2 will discuss *core competence management* with a major interest in how *process-orientation* has been considered.

4.2 Looking for Process-Orientation in Core Competence Management

Initially, this chapter emphasizes some motives to deploy a shared perspective between *process-orientation* and *core competence management*. Thereafter, the proposals of some authors, concerning tasks that structure the management of *core competences*, are summarized⁸⁵. After each contribution, there is an assessment regarding how *process-*

⁸³ According to Hümmel (2001: 71), these authors offered the most known and coherent approach of *core competences*.

⁸⁴ Consequently, the content of works about e.g. “core capabilities”, “strategic capabilities” and “distinctive capabilities” will not be taken as reference to the further discussions on *core competences*.

⁸⁵ In the literature there is no clarity concerning the meaning of “core competence management”: for instance, while Hamel and Prahalad (1996: 245) were not clear about that (“For the core competence to take root in an organization, the entire management team must fully understand and participate in the five key competence management tasks”), Krüger and Homp (1997: 92) commented that the management of *core competences* cannot be performed differently than the management of other objects - planning, organizing and controlling activities are essential, from a factual view. With regard to the term “management”, it also does not receive a unified definition yet (Brade, 2005: 28). Five “management functions” were distinguished by Fayol (1929: 29): forecast and planning, organization, command, coordination and control. With some accordance with that, Stoner and Freeman (1992: 6) wrote that “management is the process of planning, organizing, leading, and controlling the efforts of organization members and of using all other

orientation was considered, in order to help understanding how the link between both perspectives is discussed in the literature.

4.2.1 Why to Look for *Process-Orientation*

Although *process-orientation* and *core competence management* have largely been discussed, their theoretical interrelationship seems not to be clearly structured yet, although several arguments have been presented to justify a common perspective, such as:

- As some process-oriented principles present a major focus on satisfying the *current* customer expectations and the perspective of *core competences* follows a clear alignment to *future* market requirements, the combination of *process-orientation* and *core competence management* might provide a balanced view between current and future customer-orientation⁸⁶.
- Regarding “structural” aspects, the borders among a firm’s functions represent not only barriers to the processes, as argued with the “silos” matter⁸⁷, but also to the management of a firm’s *core competences*, since these are related to capabilities located at different functions or business units⁸⁸.
- As commonalities, both *process-orientation* and *core competence management* require communication, engagement and commitment throughout the existing organizational borders, since they require the participation of workers of many areas and management levels⁸⁹.
- As *process-orientation* and *core competence management* intend to generate competitive advantages by means of efficient applications of resources, they may also imply each other mutually⁹⁰.

organizational resources to achieve stated organizational goals”. This affirmation might be adapted to the case of *core competences*, as the available models of their management have partially such functions (planning, organizing, leading and controlling) and intend the achievement of goals related to *core competences* (for further discussions and definitions of “management” see e.g. Mikus, 2003: 22, Brade, 2005: 28, Steinmann and Schreyögg, 2005: 6-12, and the sources mentioned in these works).

⁸⁶ Rohm (1998: 52-55, 212).

⁸⁷ See chapter 3.2.1.

⁸⁸ Berger and Kalthoff (1995: 167), Bhattacharya and Gibbons (1996: 50).

⁸⁹ Lux and Stadelmann (1995: 73).

⁹⁰ Similar affirmation was stated by Gaitanides and Sjurts (1997: 66), however, these authors discussed on resource-based strategic development, not on *core competences*. Accordingly, Rohm (1998: 198)

Considering the importance and the interest of understanding its interfaces with *process-orientation*, some models of *core competence management* will here be summarized and evaluated. Firstly, the work of Hamel and Prahalad is presented, since they were the introducers of the concept of *core competence*.

4.2.2 The Tasks of Core Competence Management by Hamel and Prahalad

In order to avoid ignoring risks and opportunities that are not clear when there is a strong end product focus, the “core competence perspective” should be adopted and actively managed through five tasks, which must be understood and performed by the whole management team: “Identifying existing core competences”, “Establishing a core competence acquisition agenda”, “Building core competences”, “Deploying core competences” and “Protecting and defending core competence leadership”⁹¹.

Identifying core competences

To manage *core competences* firms need a capacity of promoting shared clarity and consensus about them. It is not only to identify “what we do well around here”⁹², but also to recognize links between capabilities and the competitiveness of products. This step may take months and begins usually with a large “laundry list” of several capabilities. Several traps happen when firms try to identify *core competences*, such as (1) to delegate this task only to the technical community, while this should be a matter of general management, (2) to assume assets and infrastructure as *core competencies*, (3) to be unable “to escape an orthodox product-centered view of a firm’s capabilities”⁹³, and (4) to fail in applying the test of customer perceived value⁹⁴.

The identification should be performed by several teams and involve people from different functions, divisions, geographical units and hierarchies, so that a broad perspective may be gained due to the diversity of the participants. A benchmark of *core competences* is also

commented that *process-orientation* meets in the (core) competence-view an “opportune complementation”.

⁹¹ Hamel and Prahalad (1996: 245-259). These tasks were not presented as parts of a “management process”; however, the way they are described suggest that they form a basic sequence of steps to be followed.

⁹² Hamel and Prahalad (1996: 245). This question would be perhaps enough to the identification of “distinctive capabilities”, as discussed in chapter 4.1.2.

⁹³ Hamel and Prahalad (1996: 247).

⁹⁴ Hamel and Prahalad (1996: 248).

necessary, not only against traditional competitors, but also against other firms that may be deploying concurring skills. Furthermore, it is important to detail the capabilities that are related to a *core competence*, mapping them down to personal skills, in order to build a “database” that should support the deployment of new capabilities⁹⁵.

Establishing a core competence acquisition agenda

A competence-product matrix (figure 4.7⁹⁶) is also useful to guide the acquisition of capabilities, “although a company’s competence-building agenda is determined by its strategic architecture”⁹⁷. In this matrix, the vertical axis concerns new and existing *core competences*, while the horizontal field is related to existing and new markets.

<i>Core Competence</i>	New	<i>Premier plus 10</i> What new core competencies will we need to build to protect and extend our franchise in current markets?	<i>Mega-opportunities</i> What new core competencies would we need to build to participate in the most exciting markets of the future?
	Existing	<i>Fill in the blanks</i> What is the opportunity to improve our position in existing markets by better leveraging our existing core competences?	<i>White spaces</i> What new products or services could we create by creatively redeploying or recombining our current core competences?
		Existing	New
		Market	

Figure 4.7: The competence-product matrix
Source: Hamel and Prahalad (1996: 250)

The “*Fill in the blanks*” field concerns the existing *core competences* and markets. As they are analysed, new opportunities to exploit available capabilities in the present markets may be identified. “*Premier plus 10*” aims at the planning of (1) the competences a firm needs to develop in order to remain competitive in the markets actually served, as well as (2) the capabilities that will replace the present ones when these become obsolete. In the case of “*White spaces*”, “the goal is to imagine opportunities to extend existing *core competences* into new product markets”⁹⁸. Here, the *core competences* should enable a diversification

⁹⁵ Hamel and Prahalad (1996: 248-249).

⁹⁶ Maybe the most appropriate name would be “competence-market matrix”, since this one presents an axe to markets, not to products.

⁹⁷ Hamel and Prahalad (1996: 249).

⁹⁸ Hamel and Prahalad (1996: 252).

supported on capabilities, unlike the traditional product-market viewpoint. “*Mega-opportunities*” are neither related to the present capabilities nor to the markets actually served: a firm should predict future opportunities in new markets and trace an agenda of competence acquisition, which is done by acquisitions or alliances that enable the learning and application of new capabilities⁹⁹.

Building new core competences

As the building of leadership in *core competences* takes several years, consistency of efforts is fundamental and depends on (1) a deep consensus on the capabilities to be built to avoid that the business units develop efforts that are not related to these capabilities, and (2) stability of the involved management teams, since the acquisition of competences requires a long-term continuity¹⁰⁰.

Deploying core competences

The constituting capabilities of *core competences* are spread through different business units and many of these skills are related to people. The transference of these “capability holders” within the corporation is fundamental to the continuous deployment of *core competences*; yet, many firms do not have a culture of sharing resources, which are implicitly considered as propriety of the unit where they are placed. Accordingly, the exchange of knowledge among skill owners of different corporation units should be constantly stimulated, so that the cross-fertilization of ideas enables the building of new valuable capabilities¹⁰¹.

Protecting and defending core competences

The leadership in *core competences* may be lost in many ways, such as lack of funding, fragmentation through divisionalization or divesting of underperforming business¹⁰². This may happen due to the lack of vigilance on the concerning capabilities, thus, measures should be taken to their permanent protection like the assignment of division managers to

⁹⁹ Hamel and Prahalad (1996: 249-254). Despite the contribution of this matrix, Hamel and Prahalad (1996) did not explain its relationship with the definitions of the *strategic architecture*, as e.g. “are the new *core competences* identified in the strategic architecture?” or “do the analyses of the matrix change the strategic architecture?”. Moreover, the actions related to field “Mega-opportunities” are clearly part of the *strategic architecture*.

¹⁰⁰ Hamel and Prahalad (1996: 254). These authors did not suggest more details in this step about how to build capabilities; excepting for some discussions on “resources leverage” (chapter 4.1.1.1).

¹⁰¹ Hamel and Prahalad (1996: 254-258).

¹⁰² Hamel and Prahalad (1996: 258).

cross-corporate stewardship roles and the promotion of regular “competence review” meetings, which “should focus on levels of investment, internal patterns of deployment, the impact of alliances, and outsourcing”¹⁰³.

Assessing *process-orientation* in the work of Hamel and Prahalad

Only few words related to *process-orientation* are present in the whole work of Hamel and Prahalad¹⁰⁴. More specifically, they argued that firms implement *process reengineering* and *lean manufacturing* to catch up the competitors that, in the past, anticipated the features of the present competition¹⁰⁵. Thus, these approaches were considered important, but limited to the context of the existing businesses and unrelated to the creation of new opportunities¹⁰⁶. This argumentation was part of the justification of these authors for a pro-active “creation of the future”, which should also be reached by building a *strategic architecture* and the concerning *core competences* (figure 4.1)¹⁰⁷.

Beyond these considerations, Hamel and Prahalad did not deploy other references to *process-orientation*, maybe because this one (1) became “popular” simultaneously to the theory of *core competences* in the beginning of the 90’s, and / or (2) deals, at a first sight, with a different focus: while *core competences* concept supports a long-term basis to a firm’s strategy, *process-orientation* is more directed to improve a firm’s structural and operational aspects.

However, since some matters of *process-orientation* have impact on a firm’s strategy, as argued in chapter 3.4, its interface with the concept of *core competences* should deserve more attention and may be considered as a gap in Hamel and Prahalad’s work. Some publications moved forward in this direction, as that of Krüger and Homp (1997).

¹⁰³ Hamel and Prahalad (1996: 258).

¹⁰⁴ See Prahalad and Hamel (1990), Hamel (1994) and Hamel and Prahalad (1996).

¹⁰⁵ Hamel and Prahalad (1996: 12-13).

¹⁰⁶ Hamel and Prahalad (1996: 5).

¹⁰⁷ See chapter 4.1.1.1.

4.2.3 The Cycle of *Core Competence Management* by Krüger and Homp

The *core competence management* was represented by Krüger and Homp (1997) as a cycle of five tasks: “Identification”, “Deployment”, “Integration”, “Utilization” and “Transfer” (figure 4.8), which will be summarized as follows.

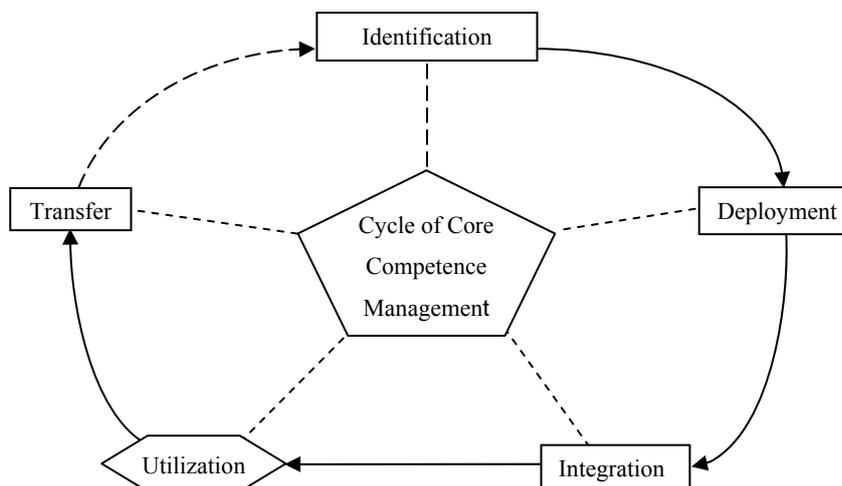


Figure 4.8: The cycle of *core competence management*
Source: Krüger and Homp (1997: 93) (translated)

Identification

This task pertains not only to the assessment of the available competences but also the forecast of those that should be developed to match the future market expectations. The *identification* is guided by a portfolio, represented in figure 4.9, where there are two matrices to evaluate (1) the market attractiveness and (2) the strength of the available competences. The combination of these matrices (in the “market-/competences matrix”) should indicate appropriate actions (deploy, use, outsource and transfer) to the management of *core competences*¹⁰⁸.

Deployment

Deployment concerns all competence-oriented measures of building and adaptation of resources and other capabilities¹⁰⁹. Competences are deployed by (1) consolidation of the current ones (through the mastering of processes of experience and learning, documentation and standardization), (2) competences improvement (via kaizen, quality circles and

¹⁰⁸ Krüger and Homp (1997: 104-106).

¹⁰⁹ Krüger and Homp (1997: 92).

organizational learning), (3) concentration, (4) complementation and (5) redevelopment¹¹⁰. The authors stated that it is not possible, however, to standardize a methodological procedure to the deployment of competences, although some approaches may help the practice, such as knowledge management, entrepreneurship, linking of market proximity with the deployment of competences, early product trials and continuous improvement¹¹¹.

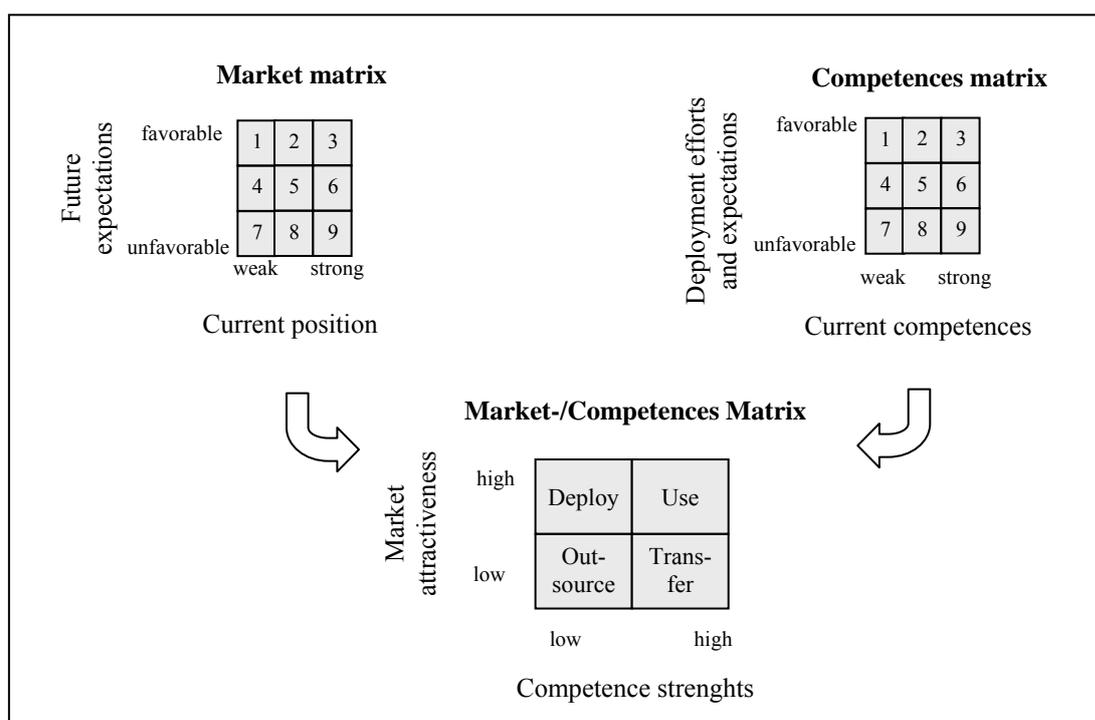


Figure 4.9: The determination of priorities to management of core competences¹¹²
 Source: Krüger and Homp (1997: 105) (translated)

Integration

Integration aims at the goal-driven bundling of resources and capabilities, so that their optimized utilization is possible¹¹³. This task does not take place exactly before or after other tasks of the management cycle, but in combination with them. The effort of *integration* depends on the targeted *core competences* and on the capabilities and related processes. Four cases may be differentiated: (1) intra-process integration (coordination among activities), (2)

¹¹⁰ Krüger and Homp (1997: 109-112).

¹¹¹ Krüger and Homp (1997: 112-119).

¹¹² In these matrices the fields with the values of 2, 3 and 6 indicate very attractive areas. The values 4, 7 and 8 represent very unattractive areas, and the values 1, 5 and 9 correspond to average positions (Krüger and Homp, 1997: 105).

¹¹³ Krüger and Homp (1997: 92).

integration among supervision, operations and support units and processes¹¹⁴, (3) change-oriented integration (to combine day-to-day business with continuous improvement or to link larger change projects to the hierarchic structure) and (4) external integration (with market partners, as in the case of just-in-time supplying)¹¹⁵. An emphasis of the step *integration* refers to organizational actions, which are related mainly to changes of core processes¹¹⁶.

Utilization

This task concerns the use of the *core competences* in products¹¹⁷. The different actions may be associated with different phases of a product life cycle: “introduction”, “growth” and “maturation”¹¹⁸. The *utilization* should observe the particular influencing variables in each context and this task is related not only to the “exploiting” of *core competences*, but also to the maintenance and continuance of a firm¹¹⁹.

Transfer

Krüger and Homp commented that “real” *core competences* are transferable to new products, regions and customers¹²⁰. In the view of the authors “objects” of *transfer* are not only *core competences*, but also all “strategic advantages”, all parts of the *value chain* and the concerning resources and capabilities, such as core products, end products and brands. As “target fields” of *transfer*, five areas are described: available assortment, new products in the original business, new customers in the original business, new regions in the original business and new business areas¹²¹ (figure 4.10). The different combinations of *transfer* between the categories of “objects” and “target fields” show that this task does not concern

¹¹⁴ Unlike the classifications presented in chapter 3.2.2.2, Krüger and Homp (1997: 41-43) used the “SOS-concept” (Krüger, 1993: 124), where the processes are related to controlling (Steuerung), operations and support categories.

¹¹⁵ Krüger and Homp (1997: 119-120).

¹¹⁶ Krüger and Homp (1997: 122).

¹¹⁷ Krüger and Homp (1997: 92).

¹¹⁸ The phase of “decline” was related to the “transfer” task.

¹¹⁹ Krüger and Homp (1997: 122-125).

¹²⁰ Krüger and Homp (1997: 93).

¹²¹ Krüger and Homp (1997: 125-139).

exclusively the subject of *core competences*, but also involves other elements, such as “brands” and “new regions in the original business”¹²².

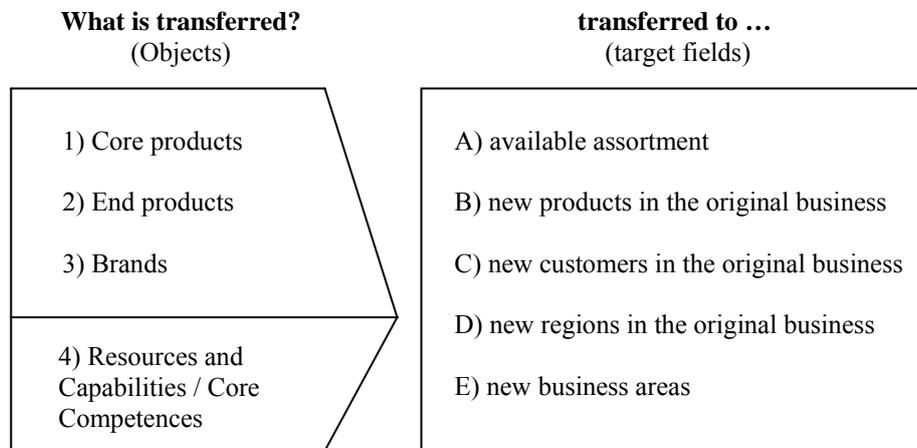


Figure 4.10: Transfer possibilities
 Source: Krüger and Homp (1997: 126) (translated)

Since the management of *core competences* requires actions at different firm levels, Krüger and Homp proposed some guidelines to accomplish the tasks at each one, which are schematized in figure 4.11.

The discussion of Krüger and Homp did not reflect exactly the context originally proposed, i.e. the cross-organizational characteristic of *core competences*¹²³, the corporate feature, the “future orientation” and other matters that underlie Hamel and Prahalad’s argumentation. However, this “cycle of management” indicates many guidelines and instruments that may support the implementation of the original concept in the practice.

¹²² Although these two topics are important to a day-to-day firm management, they are not related to the context that Hamel and Prahalad built and do not belong to the focus of *core competence management* (CCM). While the transfer of a “brand” (a single intangible resource) is not an issue of CCM, a restricted focus on transferring a *core competence* to another region is a quite modest aim to a concept deployed to look for the world leadership in a given market to be created (see chapter 4.1.1.1).

¹²³ Krüger and Homp (1997: 180) stated even that *core competences* are linked to determined functions (or subfunctions).

	Top management	Business areas	Functional areas
Identification	<ul style="list-style-type: none"> - Definition of firm strategy - Derivation and definition of core competences from the strategy - Determination of core business - Determination of products core properties 	<ul style="list-style-type: none"> - Estimation of available/missing competences - Information of top management about the individual strengths of business areas - Coordination of core needs of customers, core products and core functions 	<ul style="list-style-type: none"> - Inventory of the current state of resources and capabilities - Fixation of available/missing resources and capabilities
Deployment	<ul style="list-style-type: none"> - Fixation of boundary conditions (deadlines, restrictions) - Decisions about own or external production - Estimation of future developments 	<ul style="list-style-type: none"> - Fixation of deployment goals and main focus - Allocation of resources - Monitoring of deployment advances 	<ul style="list-style-type: none"> - Derivation of concrete deployment tasks - Detection of financial, material and staff needs - Assignment of tasks to employees
Integration	<ul style="list-style-type: none"> - Coordination with other plans (cooperation, acquisitions) 	<ul style="list-style-type: none"> - Spanning coordination - Intervention in exception cases - Definition of incentives - Involvement of employees in the core competence management 	<ul style="list-style-type: none"> - Coordination and direction of subprocesses and involved persons - Definition of concrete teamwork - Instruction and motivation
Utilization	<ul style="list-style-type: none"> - Precise observation of life-phases of products and/or markets, in order to transfer the core competences into new business domains, in the case of maturation and decline 	<ul style="list-style-type: none"> - Monitoring of core competences application - Interaction with <i>deployment</i> and <i>integration</i>, in order to avoid a bare use of core competences 	<ul style="list-style-type: none"> - Initiating measures in the case of deviations - Supervision of production of core and end products
Transfer	<ul style="list-style-type: none"> - Definition of new markets or new core competences - Decision about new possibilities of applying the core competences. 	<ul style="list-style-type: none"> - Product innovation on the basis of core competences - Suggestion of new applications to the core competences - Preparation of market entrances 	<ul style="list-style-type: none"> - Acquisition of information about potential new markets

Figure 4.11: Firm levels and tasks division
Source: Krüger and Homp (1997: 285) (translated)

Assessing *process-orientation* in the work of Krüger and Homp

The “cycle of core competence management” shows only a small contact with *process-orientation*, more specifically in the task of *integration*. However, in the same work Krüger and Homp separately dedicated a larger place to explain the link between *core competences* and core processes¹²⁴. Although interesting points of view about this relationship are proposed, this discussion cannot be used as a basis for the present investigation because of the following features:

- The concept of “*core competence*” was neither clearly defined nor applied in the way Hamel and Prahalad did. For instance, in Krüger and Homp’s discussions a *core competence* is not necessarily a cross-corporate attribute and, moreover, these authors were referring, mostly, to other concepts of capability;

¹²⁴ Krüger and Homp (1997: 72) used the term “core” to those processes that provide significant contribution to *core competences*. This is an interpretation more limited than those of chapter 3.2.2.2.1, which understands “core processes” as those related to a firm’s competitiveness, independent on a link with some *core competence*.

- There is not a clear definition of “process”. As point of reference to introduce this term, Krüger and Homp used the “SOS-concept”¹²⁵, which is a further deployment of Porter’s *value chain* and consists of eleven “generic processes”¹²⁶. Accordingly, a “macro-view” of processes dominates the discussion¹²⁷, where there is neither a clear view of the relationship between a firm’s core processes and *core competences* (although this was intended to be a main point of the work), nor a defined perspective that links “general” processes and capabilities¹²⁸;
- With the exception of a paragraph about process-oriented “centers of competence”, as a hybrid variant of organizational structure¹²⁹, the authors adopted a clear functional perspective to the management of *core competences*, leaving *process-orientation* at a subordinated level.

Due to the divergent theoretical base (mainly concerning the terminology) used by Krüger and Homp, it is hardly feasible to integrate their work with the original ideas of *core competences* and the common understanding of processes, as present in *process-orientation* literature. However, as already commented, the instruments suggested to the different tasks

¹²⁵ Krüger and Homp (1997: 41).

¹²⁶ See Krüger and Homp (1997: 151-152).

¹²⁷ See Krüger and Homp (1997: 149-175). The interpretation utilized of “process” is closer to the activities of a *value chain* than to a “cross-functional” sequence of work, which is typical of the literature on *process-orientation* (see chapter 3.2.2.1 to a discussion about the *value chain* in *process-orientation*).

¹²⁸ The explanation of Krüger and Homp (1997: 41-56) about this relationship was not clear. They stated that *core competences* are constituted by “basic” and “meta” competences: while the former consist of “SOS” processes (which reflect “management”, “operation” and “support” competences) and are related to the control of the business processes, the latter concern the command of deployment processes (reproduction and transformative changes, continuous improvement and planned evolution). Major problems of this work are that (1) although Krüger and Homp explained each part of the “basis” and “meta” competences, they did not define and present how they are related to a *core competence*, (2) the so-called “deployment processes” concern mainly “dynamic capabilities” (chapter 2.4.3.2.2), which do not belong to the theory of *core competences*, and (3) the authors employed several and unclear definitions to processes, building a blurred vocabulary (see Krüger and Homp, 1997: 150-156, to the definitions of “(un-)critical”, “core”, “business”, “operational” - different than the “operation” process of SOS-concept - and “(non-)market” processes). Moreover, the discussion about “corporate-wide core processes”, which span very different business units (Krüger and Homp, 1997: 159-163), would correspond to processes only in a supply-chain within a corporation, but this is not the case described by the authors.

¹²⁹ See Krüger and Homp (1997: 211).

seem appropriate to help the implementation of *core competences* in the form defined by Hamel and Prahalad (chapter 4.2.2)¹³⁰.

4.2.4 The Contribution of Hinterhuber et al.

Like Hamel and Prahalad (1996) and Krüger and Homp (1997), other authors also intended to structure the management of *core competences* by tasks, which are relatively comparable with regard to their denomination and content¹³¹. However, there is a variation regarding “what” the group of tasks constitutes: a “process”¹³², a set of “central tasks”¹³³, “main modules”¹³⁴ or, simply, “tasks”¹³⁵. The interpretation of “process” might suggest a linear sequence of execution, yet the different tasks are usually parts of a network-type configuration¹³⁶, which is typical of “management processes”¹³⁷.

A common characteristic of the analyzed “groups of tasks” (with exception of Krüger and Homp’s cycle¹³⁸) is that they do not present any discussion about the role of processes or *process-orientation in core competence management*¹³⁹. Hinterhuber et al. (1997), however,

¹³⁰ Krüger and Homp (1997: 265-275) suggested also some specific instruments to each a cycle’s task. Although the authors associated them to a “controlling” function, they may be understood as useful to the proper implementation of *core competence management*.

¹³¹ The content of the tasks proposed by Hamel (1994: 25) is similar to those of Hamel and Prahalad (chapter 4.2.1), however he structured only four ones: “selecting”, “building”, “deploying” and “protecting” *core competences*. Other works present a relative similarity in the denomination of tasks, e.g. “Recognize”, “Employ”, “Deploy”, “Acquire”, “Maintain” and “Unlearn” (Reiß and Beck, 1995: 39), “Recognize”, “Exploit”, “Deploy” and “Maintain” (Hinterhuber and Friedrich, 1997: 1004), “Identification”, “Deployment”, “Use” and “Protection” (Steinle et al., 1997: 4-6) and “Identification”, “Construction”, “Transformation” and “Protection” (Hümmer, 2001: 125). A more divided “process” was presented by Deutsch et al. (1997: 31-47), with the following steps: “determine market and customer requirements”, “deploy a vision for customer value”, “determine necessary areas of core competences”, “define core competences”, “determine necessary resources and resource blocks”, “implement value-creating mechanisms” and “transfer into new areas”.

¹³² See Krüger and Homp (1997), Deutsch et al. (1997).

¹³³ See Hinterhuber and Friederich (1997).

¹³⁴ See Steinle et al. (1997).

¹³⁵ See Hamel and Prahalad (1996), Hamel (1994), Reiß and Beck (1995) and Hümmer (2001).

¹³⁶ Steinle et al. (1997: 6).

¹³⁷ See chapter 3.2.2.2.2.

¹³⁸ Chapter 4.2.3.

¹³⁹ Deutsch et al. (1997: 40) mentioned only that processes, together with capacities, capabilities, people and systems should be designed in accordance with the to-be-built *core competences*; however, there is no other reference about the link of processes with capabilities or about the importance of *process-orientation in core competence management*.

indicated some aspects related to processes, although there was no intention of structuring management tasks. These authors explained the concept of *core competences* with a focus on their importance to the gain of customer satisfaction. To achieve this one, the building and utilization of these capabilities should involve the following topics¹⁴⁰:

- Definition of customer problems and firm's outputs;
- Identification of available *core competences*;
- Careful use of available potentials;
- Opportune building of future potentials;
- Protection of available *core competences*.

Like other authors, Hinterhuber et al. suggested guidelines to be followed in *core competence* management; moreover, they also presented some specific discussions regarding the role of *process-orientation*, especially in the identification of existing competences: the analysis of the *value chain*, manufacture and customer processes should allow identifying and assessing each involved capability, concerning its contribution to the customer satisfaction¹⁴¹.

Hinterhuber et al. described also a sequence of *core competence* deployment that includes the following phases: starting from the future product features (which should match the customer requirements), the necessary capabilities, skills and technologies are defined, which form the *core competences* to be developed. Thereafter, the corresponding processes are adjusted, which should finally provide the expected end products¹⁴² (figure 4.12).

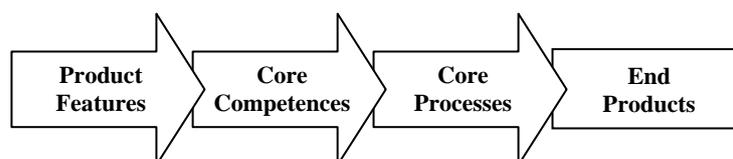


Figure 4.12: Formation of *core competences*
Source: Hinterhuber et al. (1997: 130) (translated)

¹⁴⁰ Hinterhuber et al. (1997: 53). The authors did not call explicitly these topics as “tasks”, however, they mentioned that the preservation of the competence basis is a task of the competence-oriented management (Hinterhuber and Friederich, 1997: 57).

¹⁴¹ Hinterhuber et al. (1997: 94-110). These authors mentioned simply “manufacture” (production) and “customer” processes, without more details about other ones.

¹⁴² Hinterhuber et al. (1997: 130).

The *process organization* was considered an important principle to support this deployment, since, especially in large firms, the measures to build new competences involve always different, organizational or geographically separated business areas or functions. Through an adequate design of organizational culture and structures, an appropriate atmosphere should be gained, in order to remove cross-organizational barriers and assure the free exchange of resources and competences among the individual areas. The *process organization* should allow the easy access to the necessary resources to competence building, which are occasionally imprisoned within a specific function¹⁴³.

Assessing *process-orientation* in the contribution of Hinterhuber et al.

Unlike works that are more focused on the process of *core competence management*, as that of Krüger and Homp (1997), Hinterhuber et al. (1997) were particularly interested in linking these capabilities with the reaching of customer satisfaction. This perspective brought a close attention to the processes that create value and the concerning necessity of *process-orientation*. Regarding this work some special topics should be highlighted here:

- Different to Hamel and Prahalad's discussion, Hinterhuber et al. did not highlight a priority to the "building of the future", but to meet (present or future) customer requirements. Other main features of the original definitions of *core competences* were regularly respected along this work, such as the bundling of capabilities and the importance of learning accumulation to the construction of a *core competence*;
- The work of Hinterhuber et al. did not explicitly offer a set of tasks to the management of *core competences*, although, as commented in the beginning of this section, the authors proposed topics to be considered that may be interpreted as "informal" tasks;
- Hinterhuber et al. highlighted the importance of *process-orientation* as a condition to the management of *core competences*. When discussing specific processes, however, the authors restricted themselves to the role of "manufacture" and "customer" processes, although an argumentation to every kind of process could also have been deployed;
- Unlike the management cycle presented by Krüger and Homp, who linked processes to the *core competences* only in their "integration", Hinterhuber et al. (1) evaluated the processes in the "identification" of existing or required *core competences* and (2)

¹⁴³ Hinterhuber et al. (1997: 134).

related the adjustment of the necessary processes to the deployment of *core competences*.

Hinterhuber et al. (1997) offered useful guidelines to understand how the action on processes may be integrated into the management of *core competences*, more clearly in their *identification* and *deployment*. Unfortunately, the authors did not outline a clear group of tasks, however, many of their suggestions might be applied in a more complete work.

The contributions of Krüger and Homp (1997) and Hinterhuber et al. (1997) represent exceptions among the models of *core competence management* (CCM), as *process-orientation* was considered in some of their steps, what does not occur in other works. Some reasons may be hypothesized to explain why the interfaces between CCM and *process-orientation* have been so far weakly discussed: (1) as suggested in chapter 4.2.2, both theories were simultaneously “popularized” and, as they attend to different perspectives of management, there was no necessity of integrating them in their original theoretical foundations. Unfortunately, the few trials of filling this gap seem to be prejudiced by the terminological inconsistency deployed in the concerning literatures¹⁴⁴. Another explanation (2) might be the fact that, as the literature review has shown, the relationship between the concepts “core competence” and “process” seems not to be explained yet. Thus, without understanding how *core competences* are related to processes, it is impracticable to connect their management approaches¹⁴⁵. Thus, an explanation on the interfaces between *core competences* and processes may occasionally be the first step towards the understanding of the relationship between CCM and *process-orientation*.

4.3 Summary and Partial Conclusions

Chapter 4 intended to review how *process-orientation* has been considered in the literature on *core competence management* (CCM). Initially, the original foundations of *core competences*, as developed by Prahalad and Hamel, and distinct interpretations of this concept were presented. Thereafter, the concerning terminological misunderstandings were discussed and, finally, selected models of CCM were summarized, followed by an evaluation of their interfaces with *process-orientation*.

¹⁴⁴ It was the case of Krüger and Homp’s contribution, as often explained in chapter 4.2.3.

¹⁴⁵ In a practical view, if a firm intends building or applying some *core competence*, it is essential to know which processes would be involved.

Two main conclusions could be drawn from the literature analysis deployed in chapter 4:

- The review of the term “core competence” showed that the terminological confusion of the RBV¹⁴⁶ reached large proportions in the case of Hamel and Prahalad’s concept. As different interpretations of “core competence” are disseminated in the literature, it is not possible to know clearly which meaning is associated with a given statement. As the discussion showed, a given *core competence* may concern, e.g. (1) its original connotation, as proposed by Prahalad and Hamel (an integrative corporate capability that underlies product diversification and aims at a long-term competence leadership), (2) another concept of capability (as in the cases of *distinctive capabilities*, *core capabilities*, *strategic capabilities* or simply competences that meet the VRIO criteria) or (3) the “best” or most important capability of any organizational unit. Although every theory may evolve and change its scope as different ideas are discussed and implemented, some interpretations of “core competence” are not derived from new theoretical propositions, but of apparently non-justified associations with other concepts, as it clearly seems to be the case of the frequent “equivalence” between “core competences” and “distinctive competences”.
- Available models of CCM either do not include any comment on *process-orientation* or do it under terminological inconsistencies. Moreover, despite the importance of understanding the interfaces between CCM and *process-orientation*, only a few works outline discussions about this relationship. A major obstacle to deploy a contribution towards filling this theoretical gap may be the apparently unexplained link between capabilities (including *core competences*) and processes.

Considering that (i) chapter 4 was not able to identify clear explanations about the relationship between *core competences* and processes in the concerning literature¹⁴⁷, (ii) the understanding of such a link is necessary to support any proposal to integrate *process-orientation* with CCM and (iii) there are apparently no models of CCM that are integrated with *process-orientation*, the next chapter 5 will propose contributions towards meeting these demands.

¹⁴⁶ See chapter 2.4.2.

¹⁴⁷ As commented in chapter 3.5, the review on *process-orientation* also was not able to find indications concerning the interrelationship between processes and *core competences*.

5. A Proposal to Integrate *Process-Orientation* into *Core Competence Management*

Chapter 4 suggested that the available contributions concerning *core competence management* (CCM) do not stress *process-orientation* in their content. Although some works have appointed references in this direction; they are usually superficial or present inconsistencies concerning the utilized concepts. With the aim of filling this gap, the present chapter deploys a model of CCM that is based mainly upon *process-orientation*¹.

5.1 Structuring the Relationship “*Core Competences - Processes*”

A relevant obstacle to develop the intended contribution is the fact that the concerning literature does not clearly explicate how *core competences* and processes are related to each other². In view of that, the first aim (chapter 5.1) is to build a “framework” that helps explaining this link, in order to support the following deployment of a model that integrates *process-orientation* into the management of *core competences* (chapter 5.2).

5.1.1 Introduction: the Look for Interfaces between *Core Competences* and Processes

With the intent of understanding how *core competences* and processes are interrelated, the present discussion analyses their definitions and the organizational boundaries where these terms are applied. On the one hand, a *core competence* denotes a particular class of cross-organizational capability that is related to the coordination and integrated application of other capabilities, which are located at different units in a corporation. It should also be considered that, probably, just a part of all capabilities of a firm may be related to a *core competence*, which does not necessarily involve capabilities of all business units³ (figure 5.1).

¹ It is not intended here to present a model that embraces all possible aspects concerning the management of *core competences*, but just to offer a contribution focused on *process-orientation*. Different managerial matters, as e.g. the organizational culture or other strategic perspectives should be “added” and integrated to the present contribution.

² For instance, the literature does not explain questions as “is a *core competence* composed of (a bundle of) processes?” or “may a process represent a *core competence*?”. An attempt to clarify the possible relationships between processes and *core competences* was proposed by Rohm (1998: 213-216); however, the concepts utilized by this author present some inconsistency with their original meanings (such as in the cases discussed in chapter 4.1.2). In order to offer a contribution that keeps a clear alignment with its theoretical foundations, the present work is strongly tied to a single theoretical reference: the work of Hamel and Prahalad.

³ The characteristics of *core competences* were summarized in chapter 4.1.1.2.

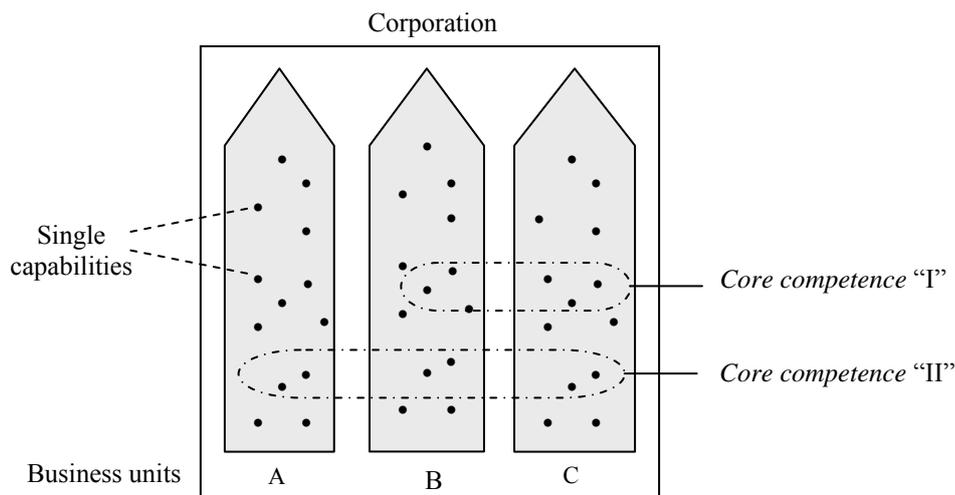


Figure 5.1: Core competences integrate capabilities across a corporation

On the other hand, unlike *core competences*, processes are usually restricted to the borders of a business unit⁴. Furthermore, as the RBV literature pays little attention to the attribute “process” (and to the concerning *process-orientation*), its relationship with the terms “resource” and “capability” is not clear. A perspective to explain these links may be found in the fact that the term “process” is usually defined in a context of an “input-output” transformation⁵, thus, a process might be understood as an “action” performed (by a firm) with the use of resources and capabilities. Moreover, such a transformation is possible due to the presence of some skill the firm owns and, consequently, a process may be seen as the *application* of a given capability⁶.

Considering the previous argumentation, business units’ capabilities might be considered as interfacing elements between *core competences* and processes. With the aim of explaining this relationship, the following discussions delineate the association between *core competences* and processes using the concept of capabilities.

⁴ There are also *management* processes at the level of corporate management, such as corporate strategic management and *core competence management*. However, *process-orientation* is characterized mainly by the alignment of the management of business units with the *operational* and not the *management* processes. Thus *process-orientation* at the corporate level has not been stressed in the present discussion.

⁵ See chapter 3.2.2.1.

⁶ This statement will be further justified in chapter 5.1.2.

5.1.2 Linking Capabilities and Processes

A known definition is taken here as reference to the term “process”: it is “any activity or group of activities that takes an input, adds value to it, and provides an output to an internal or external customer. Processes use an organization’s resources to provide definitive results”⁷ (figure 5.2).

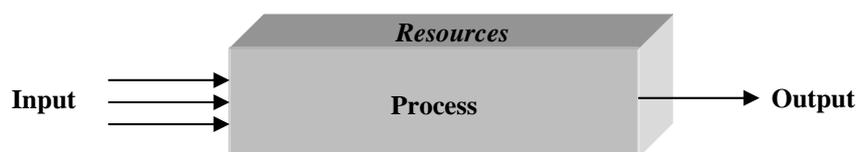


Figure 5.2: A process is a (resource-based) input-output transformation

In this statement, resources were considered in the “wide” meaning, i.e. every individual attribute (resource or capability) was considered a “resource”⁸; however, in order to examine the relationship between the terms “capability” and “process” it is necessary to contemplate resources in the “narrow” meaning, thus, separating them from capabilities. In view of that, the present discussion will be based on the definitions in figure 5.3, which suggest that capabilities play a role of coordination and integration of resources⁹.

“The firm’s Resources (*sic*) will be defined as stocks of available factors that are owned or controlled by the firm. [...] Capabilities, in contrast, refer to a firm’s capacity to deploy resources, usually in combination, using organizational processes, to effect a desired end”¹⁰.

“Some have suggested that a firm’s “resources” include its fundamental financial, physical, individual, and organizational capital attributes. “Capabilities”, in contrast, include only those internal firm attributes that enable a firm to coordinate and exploit its other resources”¹¹.

Figure 5.3: Selected definitions of “resources” and “capabilities”

As these definitions do also not clearly explain the relationship “processes-capabilities”, the present work proposes now two assumptions, which do not disagree with the mentioned references and will support the further argumentations:

⁷ Harrington (1991: 9). This definition and the others in figure 5.3 were already presented in chapter 3.2.2.1 and are repeated here to facilitate the present argumentation.

⁸ The difference between the “wide” and “narrow” meanings of resource was commented in chapter 2.4.2.

⁹ As there are several definitions of “resources” and “capabilities”, some need to be chosen to support the present discussion. The concepts selected in figure 5.3 seem appropriate to this one, since both (1) were published in very influential RBV works and (2) allow a good association with the discussions on processes.

¹⁰ Amit and Schoemaker (1993: 35).

¹¹ Barney (2002: 156-157).

- a process represents the ordered *application* of resources and capabilities to provide some expected result. In other words, a process is a *transformation*, which is performed with the use of specific resources and capabilities¹²;
- each process can be performed because there is a corresponding *process-related* capability, which coordinates and applies the concerning resources and other skills. In other words, a *process-related* capability is the ability of executing a given process.

The structuring of the links between processes and capabilities involves relationships at the different process levels; in view of that, the following step is to build a general framework that represents all existing interfaces. As it is the smallest fraction of a process, a task¹³ seems to be an opportune element to start the explanation¹⁴. The following description of a hypothetical case should help explaining the links: a given manufacture task is performed by an operator in a tool-machine (such as a lathe) with the use of specific instruments. In this task, batches of iron pieces (*input*) are regularly received, shaped into new dimensions and dispatched to the next task (*output*: shaped pieces) (figure 5.4).

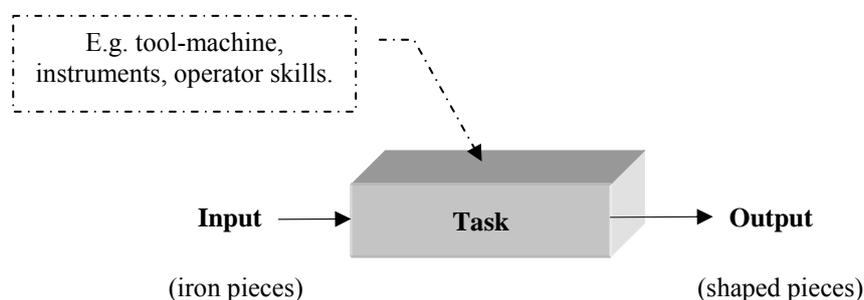


Figure 5.4: Representation of a task

In this situation, the task is the “shaping of iron pieces”, which occurs due to the use of specific resources and capabilities (e.g. tool-machine, instruments and operator’s skills¹⁵)

¹² This assumption does not contradict the typical definitions of process, which usually stress that this is a sequence (or a set) of steps (or activities) that provides an “input-output transformation”.

¹³ As commented in chapter 3.2.2.1, the term “task” should not be understood as an “assignment” or “mission”, but as a “piece of work”, as it is usual in the literature concerning *process-orientation*.

¹⁴ Following the model of Harrington (chapter 3.2.2.1), the present work considers that a process is unfolded in three different levels (subprocesses, activities and tasks); however, in the business practice the amount of levels depends on each context. Several other “process hierarchies” are also available in the literature (see e.g. Gaitanides, 1983: 80, Scholz and Vrohings, 1994a: 45-49, Bogaschewsky and Rollberg, 1998: 187, and Fuhrmann, 1998: 112), which might also have been considered here. The logic of all is, yet, the same.

¹⁵ The concept of “skill” was utilized by Nelson and Winter (1982) to explain the role of human behaviour in the evolutionary theory. These authors defined a skill as “an ability to achieve a smooth sequence of

and its execution depends on a corresponding ability, which is here denominated a “task-related” capability¹⁶. This simple case aimed at suggesting that a task (1) consists in the utilization of a “cluster” of resources and skills and (2) is associated with a (*task-related*) capability to perform some action.

In another level, an activity should be understood as the *transformation* caused by (1) a cluster of ordered tasks and (2) “activity-level” resources and capabilities, which are linked to all tasks or support their coordination - typical examples of “activity-level” resources and capabilities are, respectively, an activity-dedicated information system and supervisor’s skills, which have the function of controlling and directing the sequence of tasks¹⁷. Alike the case of the task level, the firm’s ability to perform some transformation (here: to perform some activity) through a set of tasks and “activity-level” resources and capabilities is denominated “activity-related” capability. The same logic of “level-specific” capabilities and resources is also present at the upper process levels: subprocess and process (figure 5.5)¹⁸.

An underlying idea so far is that a given process can be performed because there is a corresponding *process-related* capability. Defining it from another perspective, this kind of capability may be understood as what a business unit is capable of, concerning the execution of a given process¹⁹. So, in a practical view, a process of “new product introduction” can be

coordinated behaviour that is ordinarily effective relative to its objectives, given the context in which the skill normally occurs. Thus, the ability to serve a tennis ball is a skill, as is the ability to engage in competent carpentry, drive a car, operate a computer, set up and solve a linear programming model, or judge which job candidate to hire” (Mahoney, 2005: 190). Although Hamel and Prahalad (1996) used “skills”, “capabilities” and “competences” as synonyms, the present work will keep the term “skill” related only to the human abilities: skills are here considered as “people-related” capabilities.

¹⁶ This one should not be confounded with the operator’s skills. The *task-related* capability consists in the firm’s ability to employ different tangible and intangible resources (including the operator’s skills) to perform a specific task.

¹⁷ A special kind of “activity-related” capability may be a “organizational routine”. This term has been controversially defined: the literature has associated it with either (*i*) capabilities or (*ii*) processes. In the first case (*i*), while Grant (1991: 122) argued that routines are capabilities, Dosi et al. (2000: 4) commented that “routines are not the only building blocks of capabilities”, since “contextual assets” (resources) are also present. Other discussions (*ii*) interface the definitions of routines and processes: Mathews (2001: 10) defined routines as business processes, while Christensen and Overdorf (2000: 68) argued that routines are only a kind of “informal processes”.

¹⁸ To simplify the argumentation, the present text is based on the representation of processes that are linearly performed, different than usual “management processes”, which are frequently network-structured (see chapter 3.2.2.2.2).

¹⁹ This relationship reflects the possible dependence between the “action” (in the present case, the process) and the “ability of acting” (the *process-related* capability).

performed due to the presence of an associated *process-related* capability “new product introduction”²⁰.

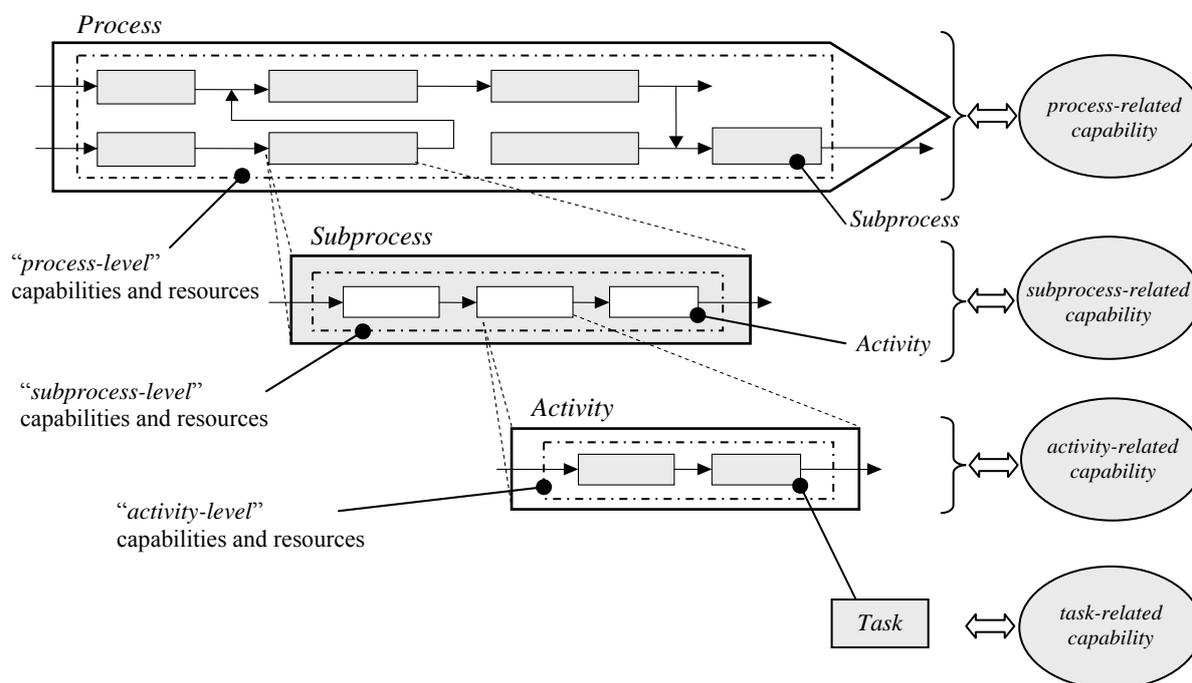


Figure 5.5: Capabilities and resources at the different process-levels
Source: Developed on the representation of Harrington (1991: 30)

In order to manage the integrated use of the *process-related* capabilities, the here denominated *combined* capabilities are necessary. For instance, a given automaker owns *process-related* capabilities of “engine design”, “engine assembly” and “engine production planning”, among several others, and the ability of applying these and other *process-related* capabilities to the “engine production” represents a *combined* capability. Similarly, in a higher level, the ability of integrating the different *combined* capabilities represents a *main* capability, which, in the described context, concerns “car production”^{21,22} (figure 5.6).

²⁰ There is no rule to the “denomination” of capabilities and processes. As convention, the present text applies the same name to a given process and the corresponding *process-related* capability.

²¹ In the case of *combined* and *main* capabilities, there are also the corresponding *management* processes.

²² Here it is not intended (1) to say that a firm can own just one *main* capability or (2) to represent the “best” framework, but only to schematise a possible pattern to a capabilities hierarchy, which need to be adapted to each context. There may be, of course, more than (if any) one “intermediary” level between the *main* and *process-related* capabilities. Another “architecture of capabilities” was proposed by Grant (1996a: 377-379), consisting of five levels (in the top-down sequence): “cross-functional”, “broad functional”, “activity-related”, “specialized” and “single-task” capabilities. Despite some similar terms, this architecture was not built in the light of *process-orientation*, as it has been suggested in the present chapter, but on a functional view.

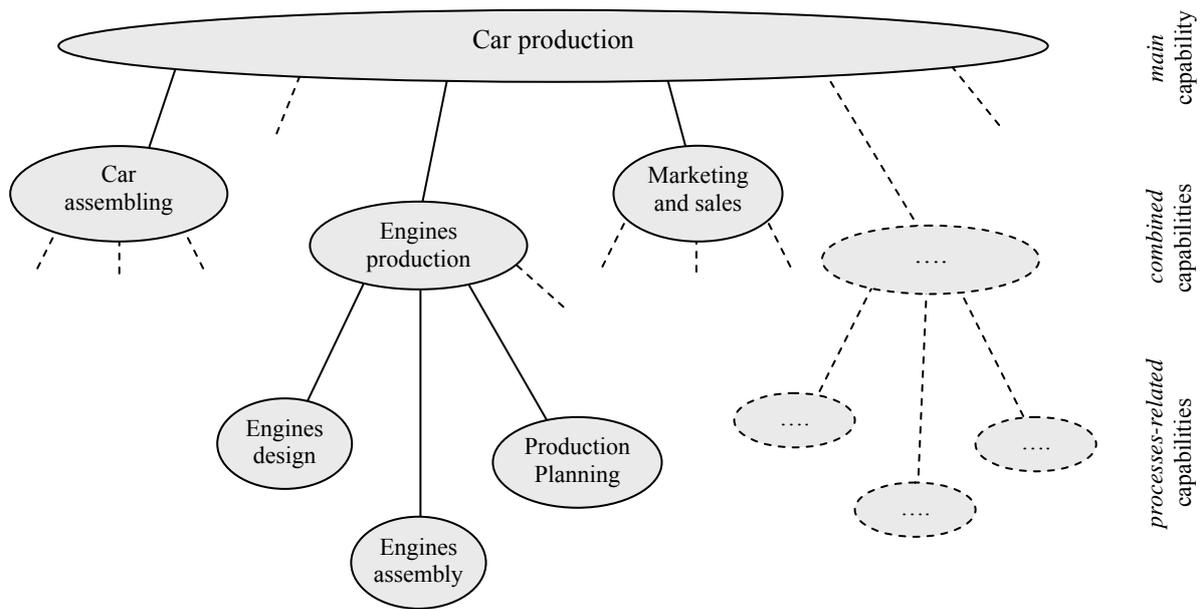


Figure 5.6: Linking processes to a firm's *main* capability (example)

Thus, the *main* and *combined* capabilities are those related to the integration and application of bundles of *combined* and *process-related* capabilities, respectively. Figure 5.7 schematises this interpretation, suggesting a framework of associations between the different process-levels and classes of capabilities, as developed so far in chapter 5.1.2. The framework proposed in figure 5.7 connects processes and capabilities and is intended to support the following discussion, which concerns how processes and *core competences* are interrelated.

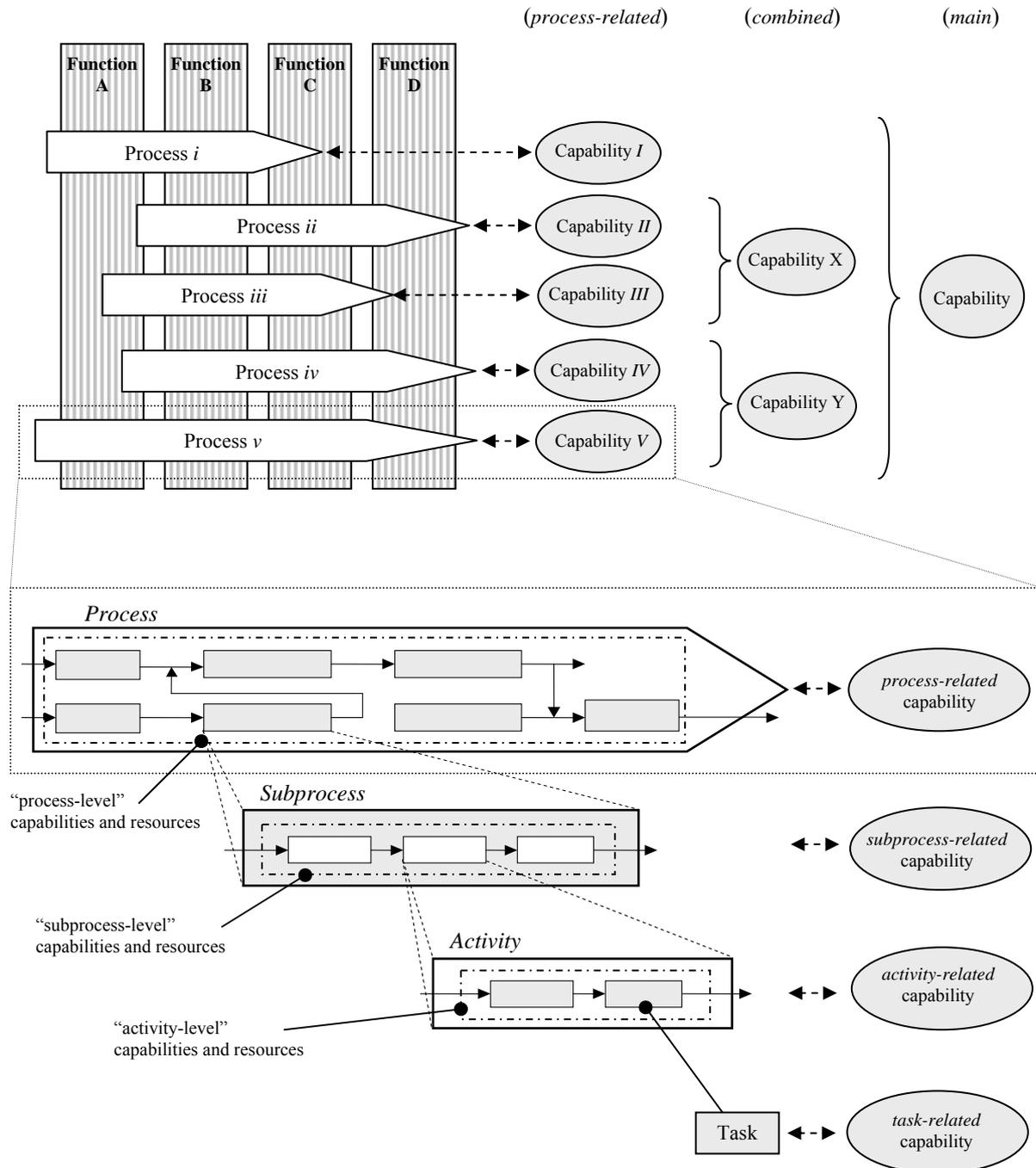


Figure 5.7: A framework of association between capabilities and processes

5.1.3 Linking Core Competences and Processes through Capabilities

Since (1) the concept of *process-related* capability was deployed to explain the relationship between processes and capabilities and (2) a major objective of the present chapter is to conceptualize the link between processes and *core competences*, it seems initially appropriate to evaluate whether or not a given *process-related* capability might be a *core*

competence. A rapid analysis of the fundamentals of *core competence* helps to dissolve such a question:

- A *core competence* needs to provide customer value, differentiation to competitors and extendability to new products and markets. Due to the difficulty to match these three criteria simultaneously, it seems improbable that a single *process-related* capability might occasionally be a *core competence*. Moreover, this one concerns, *per definition*, the integrated use of capabilities located at a corporation's different units²³, while a process - and thus the corresponding *process-related* capability - is just restricted to a specific business unit²⁴.

Thus, as a *process-related* capability cannot itself be a *core competence*, the former might be considered a “linking element” between the latter and a process. Based on this assumption and on the theoretical foundations so far considered, figure 5.8 was deployed, which schematizes the net of relationships among different classes of capabilities. This figure suggests that a *core competence* concerns the integration of different capabilities, which (i) are located at different business units and (ii) may be of any class (*process-related*, *combined* and *main*)²⁵. In the case of the represented *core competence* “II”, it embraces one *main* and three *combined* capabilities, which integrate specific bundles of *process-related* capabilities.

In accordance with the previous argumentations, the connection between *core competences* and processes might be summarized as follows:

²³ For the definition of *core competence*, in the way it was defined by Hamel and Prahalad (1996), see chapter 4.1.1.2.

²⁴ As discussed in chapter 4.1.2, other concepts have been frequently “synonymized” for *core competences*, namely (a) *distinctive competences* and (b) *strategic capabilities*. It is opportune here to check if a given *process-related* capability might, occasionally, represent some of these types of capabilities: (a) in order to be a *distinctive competence*, a given *process-related* capability would need to own a better performance than the rivals' similar competences (see chapter 2.4.1). Thus, any kind of capability (not only a *process-related* one) may occasionally be a *distinctive competence*. (b) *Strategic capability* was defined as “a set of business processes strategically understood” (Stalk et al., 1992: 62), thus, a single *process-related* capability can not be a *strategic capability*. However, *combined* or *main* capabilities might occasionally match this definition, since they deal with “bundles” of *process-related* capabilities, as symbolized in figure 5.7.

²⁵ The capabilities at the process sub-levels might have been represented in figure 5.8; yet, it is implicitly considered that the integration of a *process-related* capability necessarily involves those at the lower process-levels (figure 5.7).

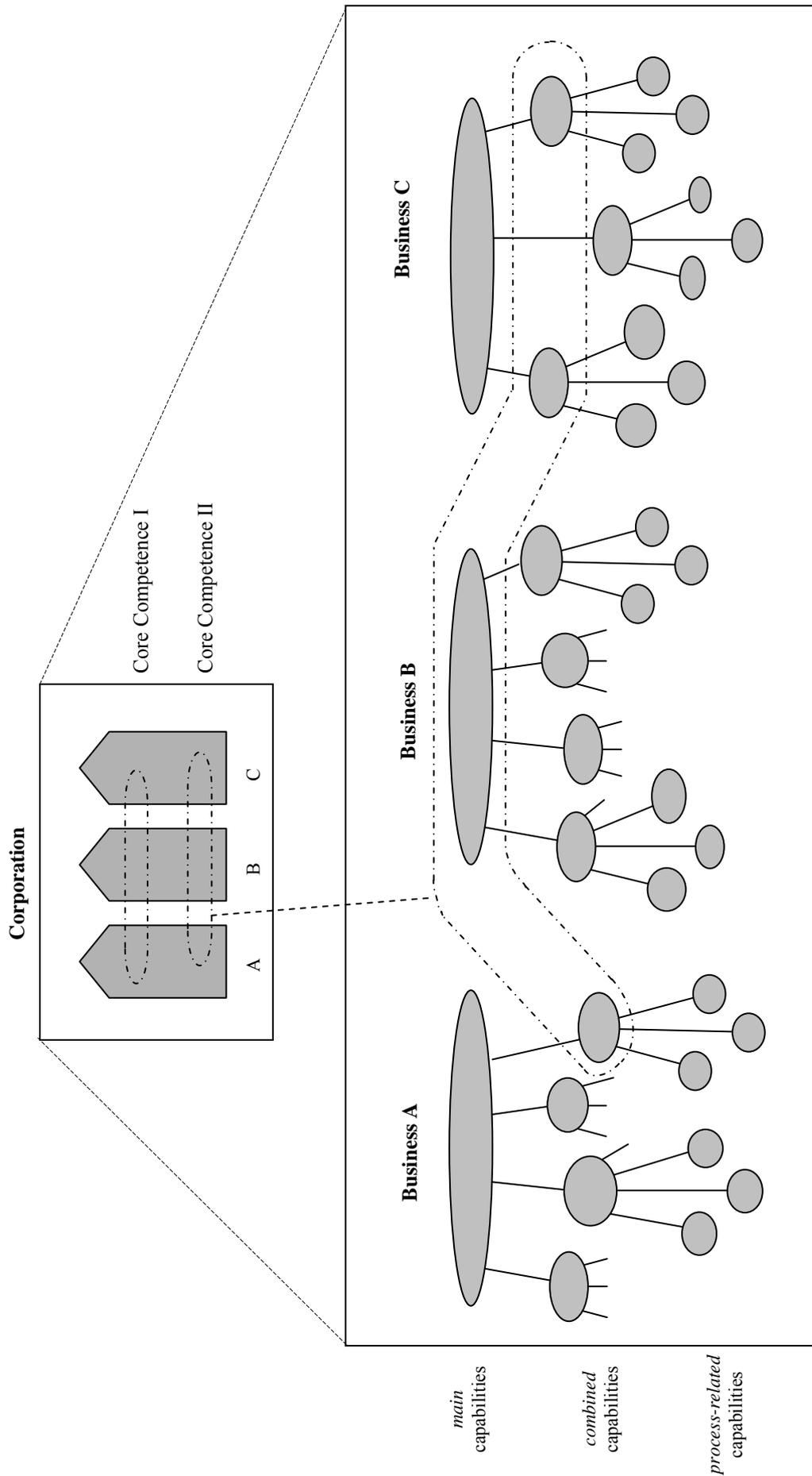


Figure 5.8: A net of relationships among corporate capabilities

“*Core competences* concern the integration and application of other capabilities, involving, directly or indirectly, the *process-related* ones, which are those that enable the execution of corresponding processes”.

As a hierarchy was structured to explain the linkages between processes (via *process-related* capabilities) and *core competences*, there is now a foundation on whose basis a proposal to integrate *process-orientation* into *core competence management* (CCM) may be formulated.

5.2 Integrating Process-Orientation and Core Competence Management

Chapter 5.2 proposes a model that makes *process-orientation* the main basis on which CCM is structured. The work of Hamel and Prahalad is taken as the major foundation, which will be complemented by other contributions and discussions so far presented in chapters 4 and 5. The steps of the model are (1) “Identification”, (2) “Building”, (3) “Integration and Application” and (4) “Protection and Improvement”²⁶ (figure 5.9).

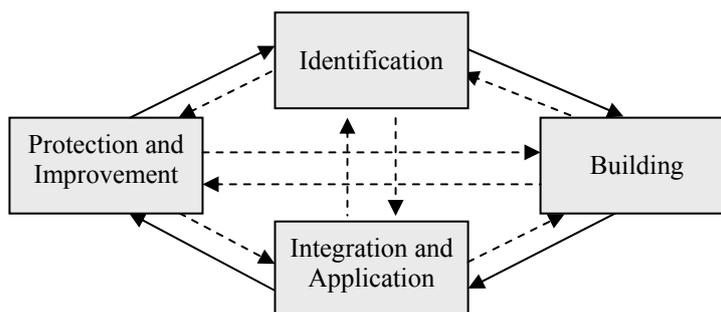


Figure 5.9: The steps of core competence management

These four steps should be basically followed in this sequence; however, as CCM is a “management process”²⁷, there is a network-type relationship among them - as each step is followed, new information may require improvements or redefinitions in the previous steps.

Concerning the implementation, the different steps should be adapted to each specific situation, since each organization meets a particular context. Yet, in any case the senior managers should lead the process²⁸, which should be supported by cross-functional teams.

²⁶ As commented in chapter 4.2, there is not a common definition of tasks the management of *core competences* needs to perform. In the absence of a clear standard to be followed, the present proposal will keep the structure of Hamel and Prahalad’s model. A main difference to this one concerns the step “Establishing a core competence acquisition agenda” (chapter 4.2.2), since it is appropriate to the design of the *strategic architecture*, which is just an input of the present proposal, this step will not be considered.

²⁷ See chapter 3.2.2.2.2 to the classification of processes.

5.2.1 Step 1: Identification

As *core competences* are often unconscious in the day-to-day business, their identification represents a challenging task, which cannot be satisfied by a fully standardized approach²⁹. Considering this restriction, the present step has the intention of offering at least one consistent point of reference, based on *process-orientation*, to identify the available capabilities including the *core competences*³⁰. Initially (step 1A), an “inventory”³¹ of capabilities will be made, from which it should be possible to identify existing *core competences*. Thereafter (step 1B), the presence of the other competences defined in the *strategic architecture* should be checked. As a result, a list of (1) to-be-acquired capabilities (including new *core competences*) as well as (2) those to be applied and protected should be identified. Figure 5.10 schematizes step 1.

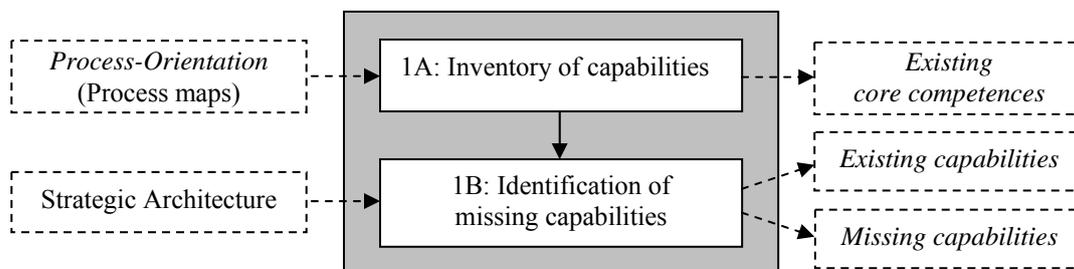


Figure 5.10: Step “Identification” (schema)

Step 1A - Inventory of capabilities: First of all, it is necessary to make an “inventory” of the existing capabilities. Considering that (i) every action in a firm is related to a process³² and (ii) each process-level (a task, activity, sub-process or process) is associated with a

²⁸ Hamel and Prahalad (1996: 249) argued: “Senior managers must be full participants in the process of identifying core competencies [...] The task of discovering a firm’s core competence is not one that senior management can delegate”.

²⁹ Steinle et al. (1997: 9).

³⁰ While the step proposed by Hamel and Prahalad focused on the identification of *core competences*, without offering a procedure to perform it, the present work uses *process-orientation* as a base for the inventory of capabilities, which supports the following identification of *core competences*, as it will be exposed in the present discussion.

³¹ Hinterhuber et al. (1997: 95). Hamel and Prahalad (1996: 247) used the term “laundry list” of capabilities.

³² See chapter 3.2.2.1.

corresponding capability³³, the analysis of the process maps should allow identifying the capabilities that are present at the process-levels^{34,35}.

In order to illustrate the present proposal, a hypothetical situation is exemplified:

An important process of a car manufacturer is the “final assembly”, which is divided in several sub-processes, such as “assembly of chassis” and “assembly of electronics”, among others. “Final assembly” may be unfolded down to the level of tasks, such as “to connect cables”, e.g. where it is possible to identify clearly which resources and skills are involved, such as a given “toolbox I”, a “testing set” and “basic electronics assembly”. Examples of process-level resources and capabilities are found in the sub-process “assembly of electronics”, which involves e.g. the supervision skills and a system of production planning and control (PPC), both supporting the coordination of all activities (figure 5.11).

³³ As assumed in chapter 5.1.2. Although each process is related to a corresponding “process-level capability” (and also other competences at its levels), it can not be considered that every existing capability is associated with one only process, as in the cases of *main* and *combined* capabilities, which are indirectly related to bundles of processes.

³⁴ The process maps should be detailed in the “process-oriented organizational structure”, which is typical of *process-orientation*.

³⁵ As the proposal offered in chapter 5.2 is grounded on *process-orientation*, there is a main attention on the *process-oriented* organizational structure to the identification of capabilities. Edge et al. (1995: 201-202) also suggested looking for the existing skills in the organizational structure and, moreover, indicated three other sources: (a) interviews with employees or, in large firms, with department managers, (b) evidences from the products and services and (c) evidences from customers and market analysts. In another work, the review of Bouncken (2000: 870) identified the following internal and external sources of information about *core competences*: (1) organizational structure (processes, communication), (2) culture (values, norms), (3) employees (explicit/implicit knowledge, used/unused knowledge), (4) technologies (research fields, patents) and (5) externalities (products/services, image, success story). The present proposal may be complemented by other contributions that show alternatives to the identification of *core competences*, although such works usually do not stress the perspective of business processes, as the present work does. See e.g. (i) Berger and Kalthoff (1995: 164-165), who proposed an “outcome-chain” to identify a firm’s strengths (with the following use of the three Prahalad and Hamel’s criteria to identify *core competences*), (ii) Edge et al.’s (1995: 211-213) “Skill Cluster Analyse”; (iii) Krüger and Homp’s (1997: 104-106) portfolio to determine priorities in CCM (see chapter 4.2.3), (iv) Steinle et al. (1997) and other sources cited in these works.

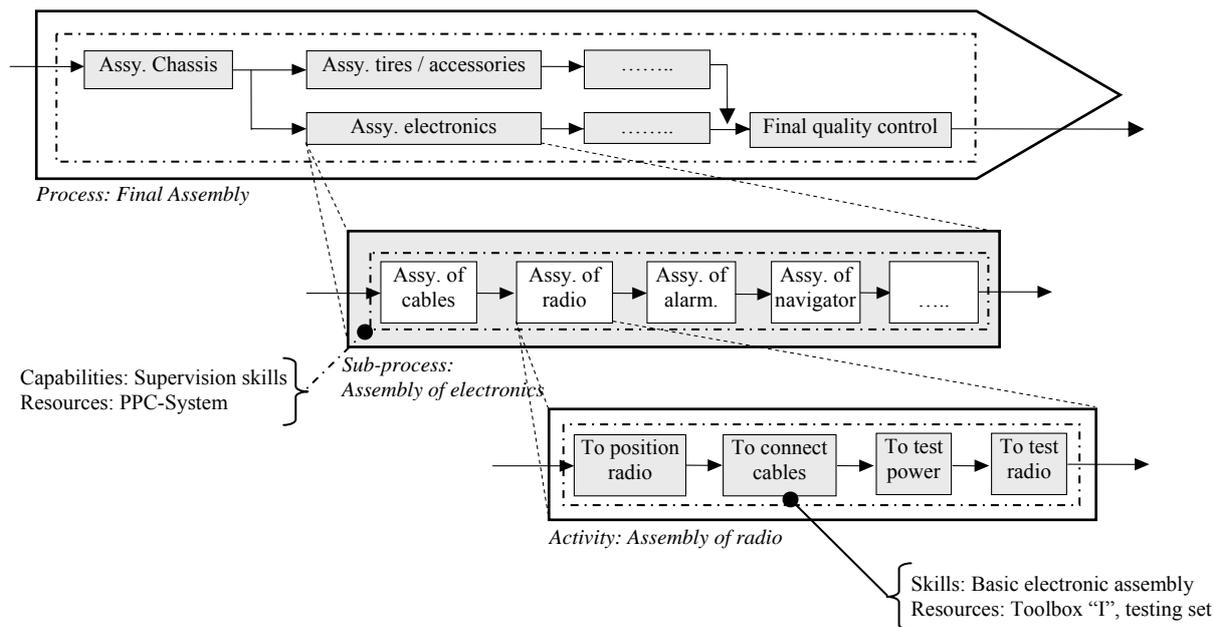


Figure 5.11: Detailing part of a hypothetical process of final assembly

It should be expected that a real “inventory” will contain a great amount of data, thus it is important that they are easily accessible. Figure 5.12 suggests a possible structure to “store” the information about the identified resources and capabilities, so that these are associated with the respective process-level³⁶.

Following the argumentation previously deployed, besides the inventory of the process-levels, it is also necessary to map the *main* and *combined* capabilities. Such identification may be done under consideration of the process-outputs, as they are related to the firm’s products or (product groups). Figure 5.13 schematizes how the different capabilities might be represented³⁷.

³⁶ It should be considered that, although the most of (or even all) capabilities probably are not related to any existing *core competence*, the availability of a “database” may help management in other future decisions on capabilities deployment, as e.g., in the case of building competences to exploit an emerging market opportunity, which is a situation that is not necessarily linked to CCM. Hamel and Prahalad (1996: 248) suggested the importance of having such a “database”; however they did not appoint a way of building that.

³⁷ The “hypothetical” firm represented in the figure also supplies engines to other car makers; thus, there is a separation between the production of cars and the production of engines. Other processes could also be represented in the figure, such as “suppliers’ deployment”, “strategic management” or “financial management”; however, the intention here is only to schematize a simple situation in order to illustrate the application of the proposed model.

Processes	Sub-processes	Activities	Tasks	Capabilities	Resources		
Final assembly	Assembly of chassis	.....	.....	.....	.....
	Assembly of tires and accessories	Assembly of tires	.....	.....	.....
		Assembly of breaks	.....	.....	.....
			
	Sub-process level				.....	.....
	Assembly of electronics	Assembly of cables	.....	.....	.....	.....
		Assembly of radio	to position radio	.....	.....	.....
			to connect cables	.....	Basic electronic	Toolbox "I" Testing set
			to test power	.....	.....	.....
			to test radio	.....	.....	.....
			
		Activity level			
		Assembly of alarm	.....	.....	.....	.....
	Assembly of navigator	.....	.....	.....	.....
	Sub-process level				Supervision skills	PPC-System	
.....			
.....			
Process level				.....	.....

Figure 5.12: Inventory of the process “final assembly” (representation)

So far step 1A presented a way of building the “inventory” of capabilities³⁸; however, there the focus was just on the capabilities that are easily identifiable and are being used, and not on other ones that may be available and are not recognized³⁹. These ones might be searched within the business units and in the possible integration of capabilities located at different ones, as in the case of *core competences* (figure 5.8). In the current example, the capability “engines sales” might perhaps be integrated with those of “information management” and “fine mechanics production”, which are placed at another unit, in order to constitute a cross-corporate capability e.g. “fast-delivery precision mechanics”^{40,41}.

³⁸ It should be clear that this is the *corporation’s* inventory of capabilities, embracing all business units, so that it is also possible the identification of potentially valuable “cross-corporate” capabilities.

³⁹ Capabilities that are not available but are necessary to the requirements of CCM will be further explained (step 1B) and called “missing capabilities”.

⁴⁰ It is not intended here to suggest *real* capabilities, but just to illustrate the application of this proposal.

⁴¹ It should not be expected that the identification of cross-corporate capabilities is an easy task. It requires surely (1) a good knowledge of the involved skills and concerning markets and, perhaps, (2) some portion of creativity.

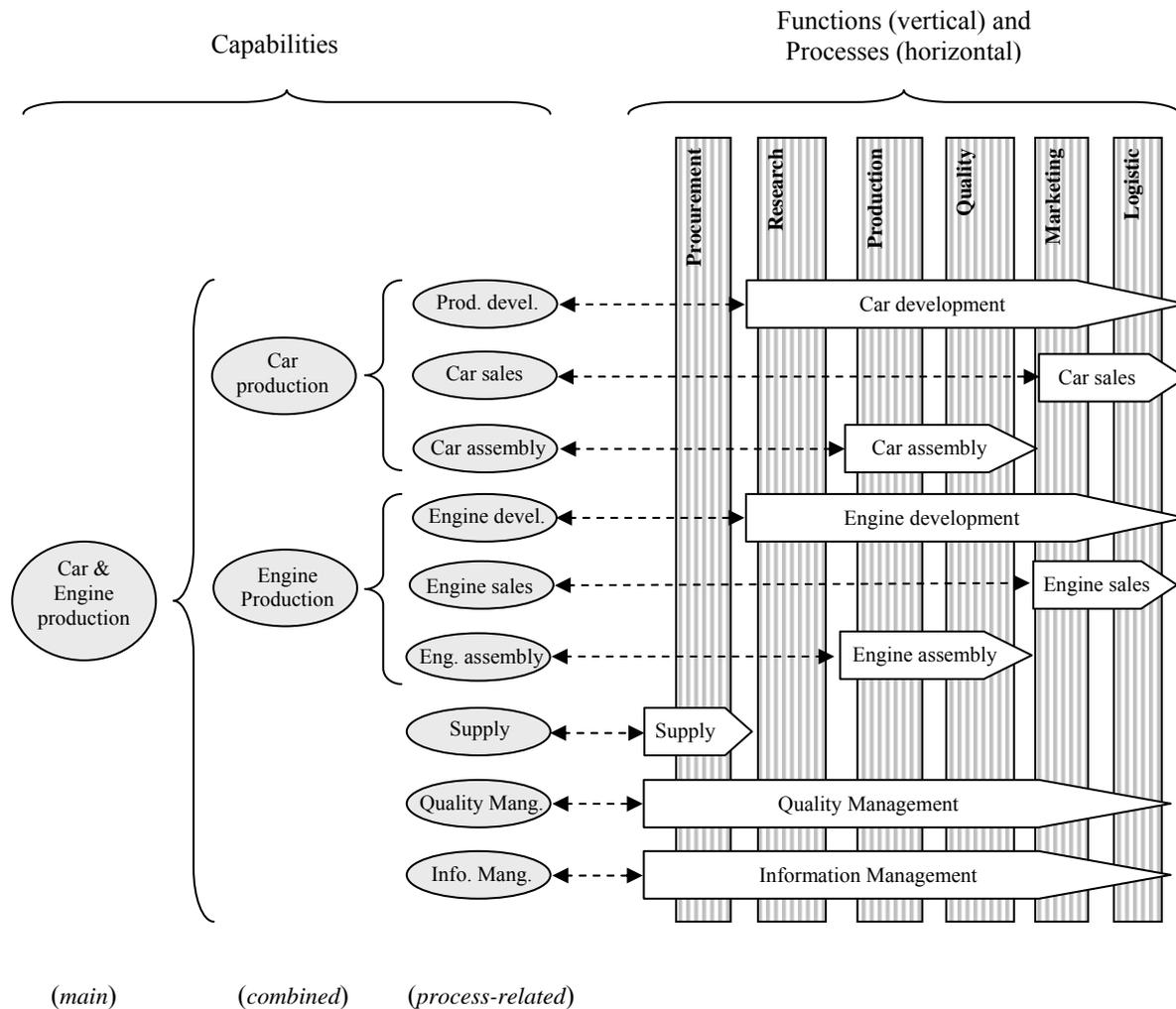


Figure 5.13: Representation of main and combined capabilities (example)

When all identified capabilities are listed in the “inventory”, they may be tested concerning the criteria that characterize *core competences*: “customer value”, “competitor differentiation” and “extendability”⁴². As it is difficult to satisfy all these conditions simultaneously, it should not be expected that *core competences* are present in every firm. In order to accelerate the search inside the several existing capabilities, a small “rule” may discard many of them, mainly at the lowest process levels: those related to very simple tasks - such as “to test power” or “to position radio” - are easily imitable and, thus, cannot provide a sustainable “competitive differentiation” themselves. Similarly, it is unlikely that a single “activity-”, “sub-process-” or “process-related” capability may represent a *core*

⁴² See chapter 4.1.1.2.

*competence*⁴³. Thus, *core competences* are probably found just at the “highest”-level capabilities (*main, combined* and “cross-corporate” ones), since the integration of these ones is probably more difficult to be imitated, due to the complexity of understanding the existing combination⁴⁴.

The *outputs* of step 1A are basically (i) the inventory of capabilities and (ii) the identification of existing *core competences*. The following step 1B compares the existing “stock” of capabilities with those indicated in the *strategic architecture*, in order to identify the demands to be supplied.

Step 1B - Identification of missing capabilities: Besides the inventory of capabilities (step 1A), the *strategic architecture* is the main *input* to step 1B, since it indicates the *core competences* and corresponding technologies a firm believes to be necessary to lead the future market arenas⁴⁵. There is not a “right way” of designing such an architecture, which has sometimes the form of the corporate “tree” (figure 4.2⁴⁶) with its core products and *core competences*⁴⁷. An example of *strategic architecture* is that of Vickers, a premier competitor in hydraulics components (“fluid power”), which indicated two *core competences* to be built: “electric-power components” and “electronic controls”⁴⁸ (figure 5.14).

⁴³ As commented in chapter 4.1.1.1, Hamel and Prahalad believe it is very difficult that a single business unit can hold a *core competence* due to the complexity and necessary investment to build a capability that provides “world-leadership” in a new market.

⁴⁴ See for instance the case of Sony’s *core competence* in “miniaturization”: it concerns several capabilities located at different businesses. While it is probably possible to identify what processes are involved, as well as their individual characteristics, it should be difficult to understand exactly how they are integrated and applied with the performance Sony reaches. In other words: the individual *process-related* capabilities are occasionally imitable, but not “the way” Sony integrates them.

⁴⁵ As commented in chapter 4.1.1.1, the context built by Hamel and Prahalad considers that the future *core competences* are defined in the *strategic architecture*, which leads a firm’s business trajectory concerning the deployment of capabilities. These authors explain also that a “strategic architecture is not a detailed plan. It identifies the major capabilities to be built, but doesn’t specify exactly how they are to be built” (Hamel and Prahalad, 1996: 118-119). Furthermore, a *strategic architecture* represents a “broad map of evolving linkages between customer functionality requirements, potential technologies, and core competencies. It assumes that products and systems cannot be defined with certainty for the future but that preempting competitors in the development of new markets require an early start to building core competencies” (Pralhad and Hamel, 1990: 88). In order to illustrate how the process of creating a *strategic architecture* takes place, Hamel and Prahalad (1996: 119-134) explained the cases of Komatsu, NEC and Hewlett-Packard.

⁴⁶ See chapter 4.1.1.1.

⁴⁷ Prahalad and Hamel (1990: 89).

⁴⁸ Prahalad and Hamel (1990: 88).

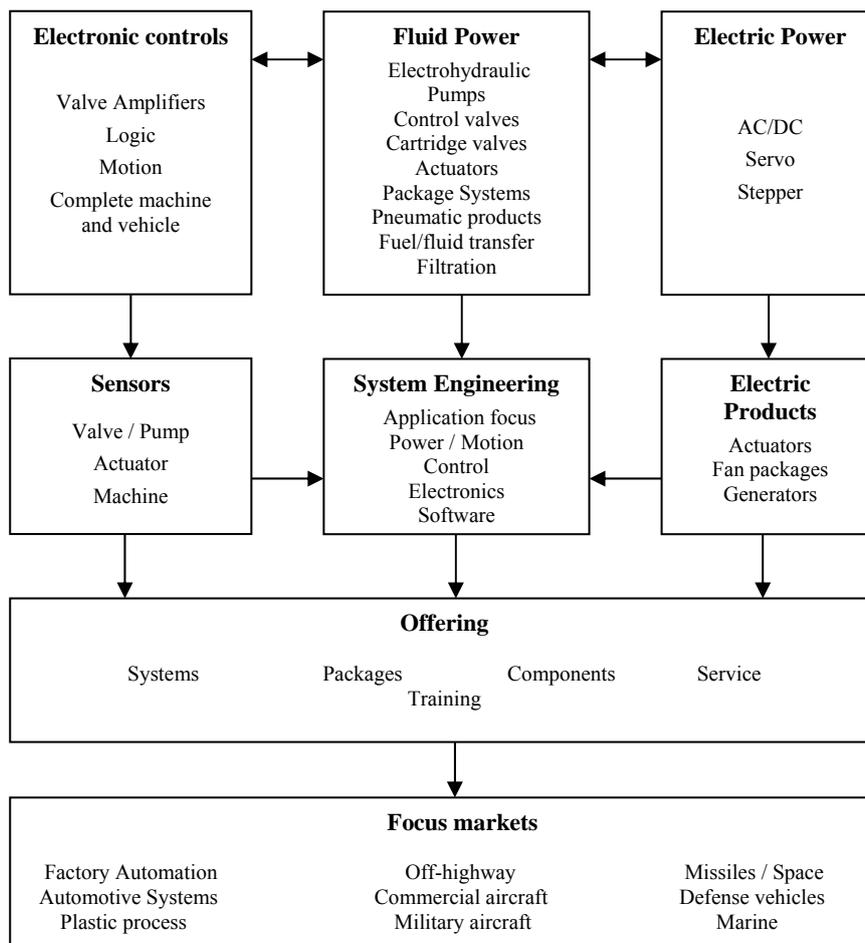


Figure 5.14: Vickers map of competences
Source: Prahalad and Hamel (1990:88)

The main objective of step 1B is to identify which of the expected capabilities are not yet available in the firm, so that their acquisition may be provided (step 2). Initially, the demands indicated in the *strategic architecture* need to be “understood” with regard to the classes of capabilities mapped in the inventory (*main*, *combined* and *process-related* types)⁴⁹. In the case of a *main* capability⁵⁰, all *combined* and *process-related* capabilities involved should be identified, so that the demands can be mapped⁵¹.

In a hypothetical case, a firm’s strategic architecture requires the acquisition of a new main capability “telecommunication devices”, whose combined capabilities

⁴⁹ In the case of *core competences*, these ones should be explicitly defined in the *strategic architecture*.

⁵⁰ The following explanations will consider the case of acquiring a *main* capability, which is the most complex case. To other capability-levels, it is just necessary an adequate simplification.

⁵¹ It should not be excluded the possibility that some necessary capability may be identified just during the process of acquisition of a *main* capability.

might be “conventional devices” and “wireless devices”. To the first one, the corresponding process-related capabilities might occasionally be “product development”, “customer service” and “order processing” (figure 5.15).

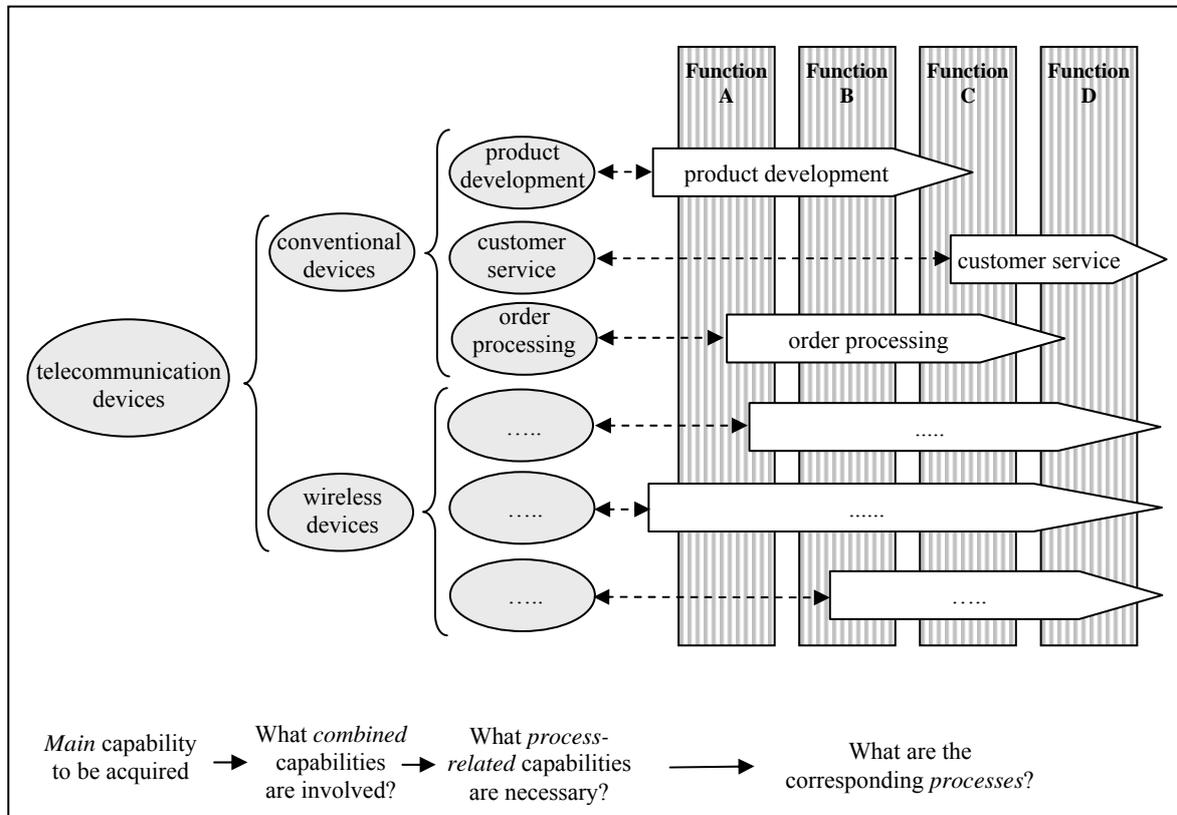


Figure 5.15: Depicting a main capability (representation)

Since the demanded capabilities are now classified (as *core competences*, *main*, *combined* or *process-related* capabilities), they should be compared with those identified in the inventory. As a result, different groups are identified, which require specific measures (figure 5.16):

- “Existing *core competences*”: these ones should be continually applied (step 3), protected and improved (step 4);
- “Existing capabilities”: this category concerns competences that are required in the *strategic architecture* and are already available. They should be permanently applied (step 3), protected and improved (step 4);
- “Missing capabilities”: these competences are present in the *strategic architecture* but do not exist in the firm yet. They need to be built (step 2) and later integrated with the “existing capabilities” to a combined application (step 3), in order to enable the emergence of new *core competences*;

- “Other existing capabilities”: these ones, although present in the day-to-day operations, are neither *core competences* nor demanded for the *strategic architecture*, thus, they are not embraced by the scope of CCM⁵².

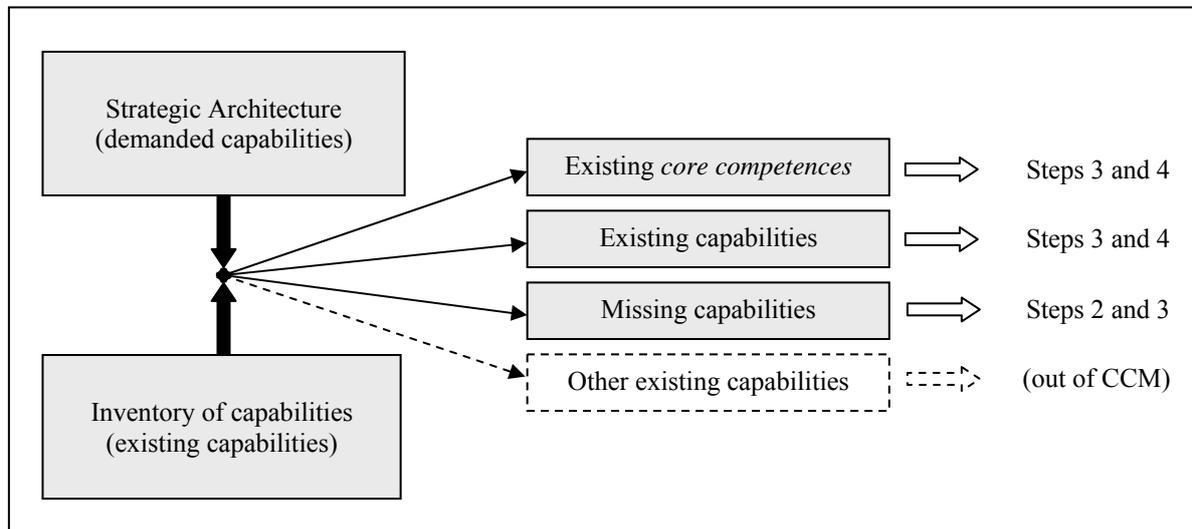


Figure 5.16: Sorting the inventoried capabilities

The following step 2 is dedicated to the acquisition of the “missing capabilities”.

5.2.2 Step 2: Building

Step 2 (figure 5.17) approaches the building of capabilities⁵³ and has as main *input* the list of “missing capabilities” that was provided in step 1. An important condition is that the leading staff has a long-term stability, since competences are built through a long-term process that requires continuous and lasting managerial support⁵⁴.



Figure 5.17: Step “Building” (schema)

⁵² These capabilities should be examined concerning, for instance, their importance to the business strategies, since CCM was not proposed as a substitute to a product-market perspective, but as a complement for it (Hamel and Prahalad, 1996: 258). If some “other available capabilities” are not important for other strategies, the way of outsourcing might be considered.

⁵³ In the literature about *core competences* most of the authors focus their *identification*, while just sporadic principles concerning the *building* are found (Homp, 2000: 74). While the work of Hamel and Prahalad lets relatively open how a firm can systematically build, acquire and further deploy certain *core competences* (Blohm, 2000: 270), it is also argued that the “understanding of the competence building process and of the resulting strategic architecture is very limited. The literature provides only a sparse description of how such a process can be concretely implemented” (Meschi and Cremer, 2005: 309).

⁵⁴ Hamel and Prahalad (1996: 254).

Concerning a “building method”, the literature is rather vague⁵⁵; however, it seems clear that capabilities are (1) initially created from a given knowledge and (2) further developed through cycles of application⁵⁶. In view of that, step 2 considers that the *building* concerns (i) the acquisition of related knowledge and (ii) the deployment of the capability⁵⁷. Since there is not a “best way”, the following explanations will only offer guidelines on three aspects that must be considered in a “building plan”: (a) capabilities hierarchy, (b) building teams and (c) methods of acquisition.

a) *Capabilities hierarchy*: Because a *main* capability⁵⁸ concerns the integration of *combined* capabilities, the latter need to be previously available so that the *main* one can be deployed. A similar relationship occurs between *combined* and *process-related* capabilities. Therefore, the acquisition plan of a *main* capability needs to be unfolded in diverse sub-plans for obtaining the competences of lower levels (figure 5.18). The building should follow an inverse sequence: the first to be acquired are the *process-related* capabilities, followed by the *combined* ones. Finally, the *main* capability may be built.

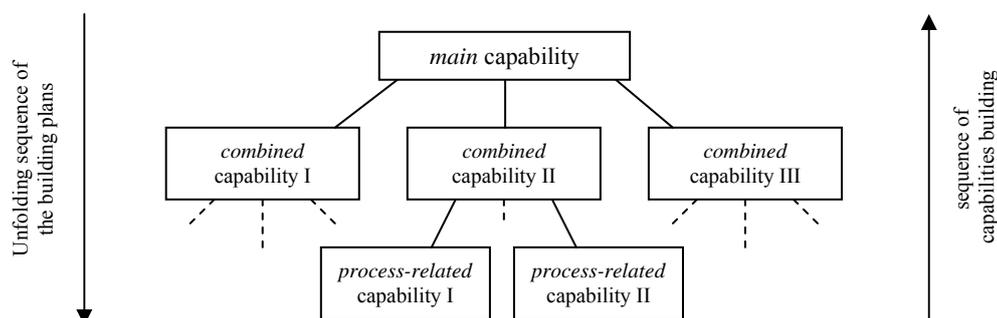


Figure 5.18: Hierarchy of capability building (representation)

⁵⁵ Krüger and Homp (1997: 112) argued that a procedure for competence building cannot be standardized.

⁵⁶ Chiesa and Barbeschi (1994: 293-294) assumed that the capability building is a “guided process of resource accumulation”. They argued also that “whatever the typology of the competence, the key characteristic is (*sic*) that it is the result of a cumulative resource development process that leads to a build-up of firm-specific competencies” (Chiesa and Barbeschi, 1994: 295). According to Grindley (1991: 39), skills “are built incrementally via a series of short-term learning cycles within a long-term process of accumulating capabilities”. The accumulative learning is also considered on Klein et al.’s (1991: 3-4) proposition of a pattern to the internal deployment of a capability: initially, a new one is acquired from external sources to solve a specific problem, such as the exposure to a new technology or the mastery of a special software packet. Thereafter, this capability evolves as it is adapted, reapplied and transferred to other projects.

⁵⁷ Moreover, the acquisition of complementary resources that are occasionally necessary to the application of these capabilities might also be here considered.

⁵⁸ The case of a *main* capability is here discussed since this is the most complex case. To the building of a *combined* or a *process-related* capability, it should be necessary just to adopt adequate simplifications.

b) *Building teams*: individual committees should manage all initiatives necessary for the acquisition of each capability. These “building teams” should, mainly, (1) identify the different levels of the capabilities (if necessary, specific sub-teams should be nominated for each capability level), (2) define the methods for acquiring the needed knowledge and lead their implementation, and (3) manage all activities related to the capability creation.

c) *Methods*: beyond building each capability through specific approaches, which will be explained in the sequence, the organization should be mobilized towards their efficient implementation. For that, two aspects should be emphasized in the managerial actions⁵⁹:

- (1) “Converging” resources towards a “strategic intent”: the efforts of all individuals and business units should be concentrated on a common goal, with the aim of avoiding that managers deploy distinct beliefs in the industry and in the firm’s strategic intent, what may happen when the goals are multiple or inexistent⁶⁰.
- (2) “Focusing”: the setting of a prior goal protects “against the dilution of resources”⁶¹. As these ones are limited, they should not be divided simultaneously and successfully among several initiatives, such as programs for the improvement of costs, quality and lead-time⁶².

As already assumed, the building of a capability requires (i) the acquisition of the related knowledge and (ii) the deployment of an ability to apply this knowledge^{63,64}. Alternatives to reach these two aspects will be discussed in the following.

⁵⁹ These two aspects are part of “concentrating”, one of the “resources leverage” categories (Hamel and Prahalad, 1996: 175-179).

⁶⁰ Hamel and Prahalad (1996: 175-176). Complementing, “converging requires an understanding of how all the resources of the firm can be orchestrated to achieve a stretch goal, one that firms with a more fragmented sense of corporate priorities cannot hope to achieve” (Hamel and Prahalad, 1996: 176).

⁶¹ Hamel and Prahalad (1996: 176).

⁶² Hamel and Prahalad (1996: 176-179).

⁶³ As “deployment” is meant the improvement or further development of a capability.

⁶⁴ As the following discussion will show, it is not always possible to identify a clear border line between these two aspects, since a given knowledge and the concerning capability may be acquired simultaneously, as in the cases of *internal development* and *merger and acquisitions*.

Acquiring knowledge

Strategies of knowledge acquisition should determine how far it will be internally deployed or absorbed and internalized from other firms⁶⁵. The acquisition may be based at least on five different “methods”, which may be also used in combination⁶⁶:

1. *Internal development*: it concerns the use of existing internal capabilities to develop or improve a given knowledge. The key challenge is to develop “a culture and atmosphere which encourages new ideas, but is not closed to outside forces and inspiration”⁶⁷;
2. *Assisted internal development*: is similar to the internal development of knowledge; however, it also involves contracting external sources (firms or consultants) to complement, support or improve the internal capabilities.
3. *Market procurement*: the knowledge is acquired by the purchase of information, which may be accessed in patents, services or hired experts. It is a rapid form of gaining state-of-the-art knowledge deployed by other organizations.
4. *Inter-firm collaboration*: is a partnership between organizations that own complementary capabilities. The objective for all partners is, ideally, “to benefit from a two-way flow of information, knowledge and resources”⁶⁸. The collaboration may take the form of e.g. joint ventures, consortia or contractual agreements⁶⁹.

⁶⁵ Friederich and Hinterhuber (1995: 38).

⁶⁶ Helleloid and Simonin (1994: 231-239). These methods present many interfaces with Hamel and Prahalad’s (1996) “resources leverage”, namely in both aspects of the category “accumulating”: “*mining*” and “*borrowing*”.

⁶⁷ Helleloid and Simonin (1994: 232). Hamel and Prahalad (1996: 180-181) emphasized, in their discussion on “*mining*” resources, the importance of learning from each and every incremental experience, which provides the basis for further improvement and innovation. They also affirmed that the “capacity to learn from experience depends on many things: having employees who are well schooled in the art of problem solving, having a forum where employees can identify common problems and search together for higher-ordered solutions, being willing to fix things before they’re broken and continuously benchmarking against the world’s best practice” (Hamel and Prahalad, 1996: 181).

⁶⁸ Helleloid and Simonin (1994: 221).

⁶⁹ The methods 2, 3 and 4 were somehow approached in the resources leverage’s aspect “*borrowing*”: “Through alliances, joint ventures, inward licensing, and the use of subcontractors, a firm can avail itself of skills and resources residing outside the firm. At the extreme, borrowing involves not only gaining access to the skills of a partner but actually internalizing those skills by learning from the partner” (Hamel and Prahalad, 1996: 181). The internalization of technologies may take place through participation in some *value chain* as an OEM supplier, e.g. when a competition on learning between partners should be expected:

5. *Merger and acquisitions*: this method may be the most suitable for acquiring knowledge that “is not widely available and it is embedded in an indivisible part of another organization”⁷⁰. The acquired knowledge may support an expansion on a new market segment or region and allow a rapid absorption of new technologies developed in another firm⁷¹.

The following discussion will propose a pattern of capability deployment, which uses the acquired knowledge as “input”.

Deploying capabilities

The emergence and deployment of a capability occur through the application of (1) knowledge and (2) a complementary “resources base”⁷²: initially, considering that the firm owns the necessary knowledge, this should allow recognizing the appropriate “resources base” to be acquired⁷³. When this one and the knowledge are available, a firm has the possibility - i.e. it becomes somehow “able” - to apply them to obtain an expected result. Accordingly, a kind of “rough capability”⁷⁴ emerges, which will be deployed through its continuous application: by trial-and-error experiences there is a learning process, which adds new information to the previous knowledge and influences improvements in the “resources base” and in the capability itself (figure 5.19).

“In such cases, upstream partners can be expected to work hard to internalize the understanding of customer needs, buying patterns, and distribution channels possessed by downstream partners. In this sense, alliances often represent a race to learn. If the upstream partner internalizes the unique skills of the downstream partner more rapidly than the reverse, bargaining power shifts to the upstream partner” (Hamel and Prahalad, 1996: 183).

⁷⁰ Helleloid and Simonin (1994: 223).

⁷¹ This method presents, yet, high risks with regard to problems that are related to organizational culture and integration. Hamel and Prahalad (1996: 181-182) argued that in “making an acquisition, the acquirer must pay both for the critical skills it wants, as well as skills that it may already have or may deem less strategically valuable. Similarly, the problems of cultural integration and policy harmonization are much larger in an acquisition than in an alliance”.

⁷² A “resources base” means a group of resources and capabilities that are necessary to the application of the capability that is object of deployment. A “resource base” may consist e.g. of personal skills, softwares, information systems, tools and buildings.

⁷³ The existing inventory (step 1A) may be used to check if the demanded capabilities and resources are already available and may occasionally be “copied” or transferred to be utilized by the new capability. In accordance with that, plans to acquire the non-existing resources and capabilities should be implemented.

⁷⁴ The present approach has not a preoccupation with the “performance” of capability – i.e. if a given one is “bad” or “good” -, but if the outcome may be generated (usually newcomers in a given branch do not have the same performance like established competitors, but they all own competences to fabricate a given product). Further discussions concerning evaluation of capabilities are not in the scope of the current research.

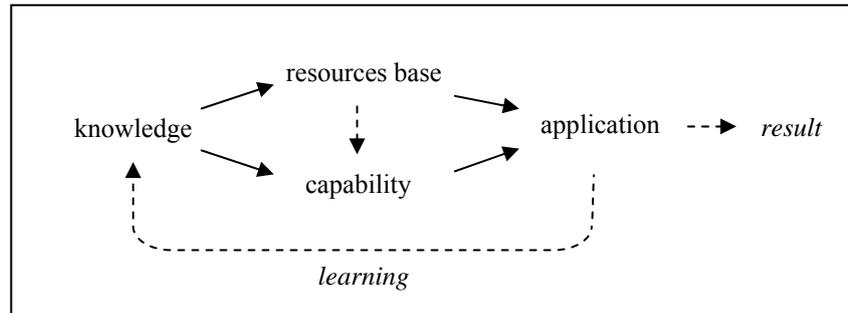


Figure 5.19: The deployment of a capability (schema)

The following situation illustrates the proposed pattern on capability deployment:

A small firm (here called “SF”) intends to start producing ice cream machines. The appropriate knowledge can be acquired from several sources such as handbooks and consultants. With this information, SF is able to e.g. purchase adequate equipment, hire qualified people, design prototypes and build the necessary production line. As knowledge and the “resources base” are available, SF is “capable” of producing a first unit, which is not expected to be a “success” due to SF’s lack of experience with ice cream machines. However, the production of the first units allows SF to learn how the design and manufacture can be improved in several aspects, providing knowledge about different resources and techniques to be employed in the manufacture of the following units. As more ice cream machines are fabricated, SF learns continually and the accumulation of knowledge allows deploying better production capabilities.

The proposed “pattern” on deployment should be adapted to the different capability levels, for which some specific guidelines will now be presented. Following the sequence indicated in figure 5.18, the building should start by the *process-related* capabilities.

- *Deploying a process-related capability*

In order to deploy a new *process-related* capability it is initially necessary to own enough knowledge to draft a first version of the concerning process⁷⁵ and, thereafter, the necessary

⁷⁵ The design of a process may be based on measures applied to *process reengineering*. A main difference between the present procedure and (most of) *reengineering* approaches is that, while the latter aim at redesigning existing processes, the former concerns the design of new ones. Yet, the possibility of designing processes from a “blank page” is also considered in *reengineering* works (e.g. Nippa, 1994b: 71, and Bogaschewsky and Rollberg, 1997: 262), although there are no clear indications of how to do it.

resources base should be defined and acquired⁷⁶. Considering that the knowledge and the necessary “resources base” are available, a “potential” *process-related* capability emerges. Its repeated application, in the form of processes, should continuously provide new knowledge, which leads to improvements of the “resources base” and the own *process-related* capability⁷⁷ (figure 5.20).

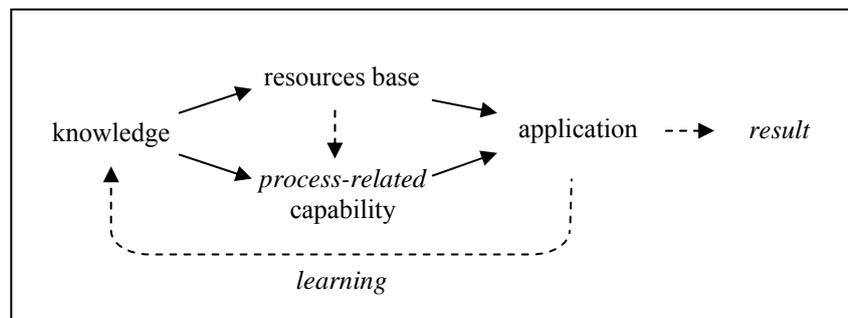


Figure 5.20: Pattern of deployment of a *process-related* capability

- *Deploying combined and main capabilities*

In conformity with the pattern proposed, the knowledge concerning the to-be-deployed *combined* capability should guide the acquisition of the “resources base”, which, together with the *process-related* capabilities, is object of application of the (initially “potential”) *combined* capability. The continuous use of this one allows acquiring new knowledge, which should provide improvements in the resources base and the *combined* capability (figure 5.21).

⁷⁶ Considering the particularities of the processes, the necessity of adapting the organizational structure should be identified and the required changes should be performed. The present discussion assumes, for simplification, that it is possible to implement the new processes within existing business units. It may be necessary, yet, to create a new business unit in the case of building a *main* capability and all related competences.

⁷⁷ Further explanations in chapter 5.2.4 will discuss how approaches of “process improvement” are related to the deployment of capabilities.

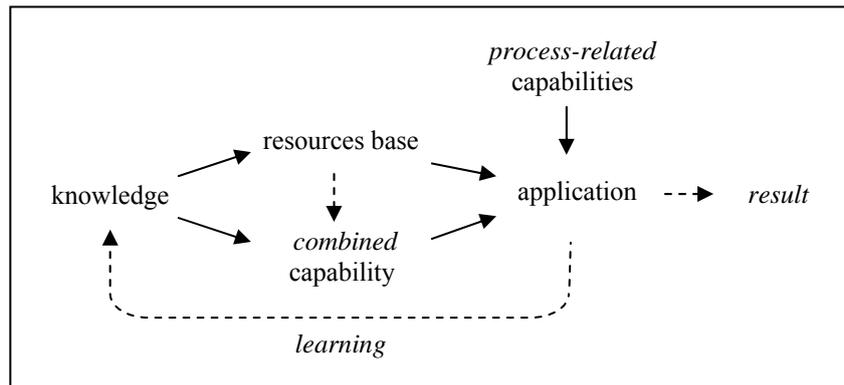


Figure 5.21: Pattern of deployment of a *combined* capability

A similar deployment occurs in the case of a *main* capability: the concerning knowledge leads the acquisition of the necessary “resources base”. This one and the involved *combined* capabilities will be applied by the “potential” *main* capability to generate results, and the continuous utilization of the latter enables the learning on different aspects of the application, creating the conditions to develop the own *main* capability (figure 5.22).

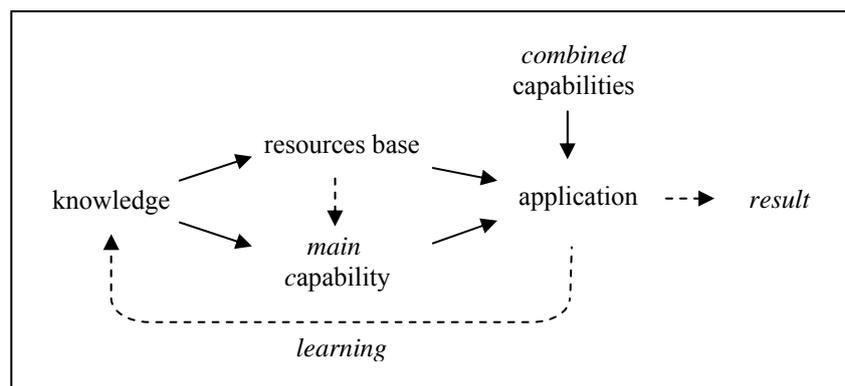


Figure 5.22: Pattern of deployment of a *main* capability

The following illustrative case summarizes the application of step 2 (“building”):

The firm “TIE” fabricates chemicals and offers consulting services to the treatment of industrial effluents. The new strategic architecture of TIE was built on the belief that there will be many opportunities in the future to firms that, besides TIE’s current competences, also own capabilities in “effluents transportation”. Considering this one as a main capability to be built, “electric motors” and “industrial pumps” were identified as the involved combined capabilities⁷⁸ and, in both cases, the process-

⁷⁸ It may be important to stress here, as previously commented, that there is not a rule to the denomination of capabilities. In the present case, “electric motors” and “industrial pumps” should be understood as the capabilities of producing such product types.

related capabilities were “new product introduction”, “manufacture” and “customer service”⁷⁹ (figure 5.23).

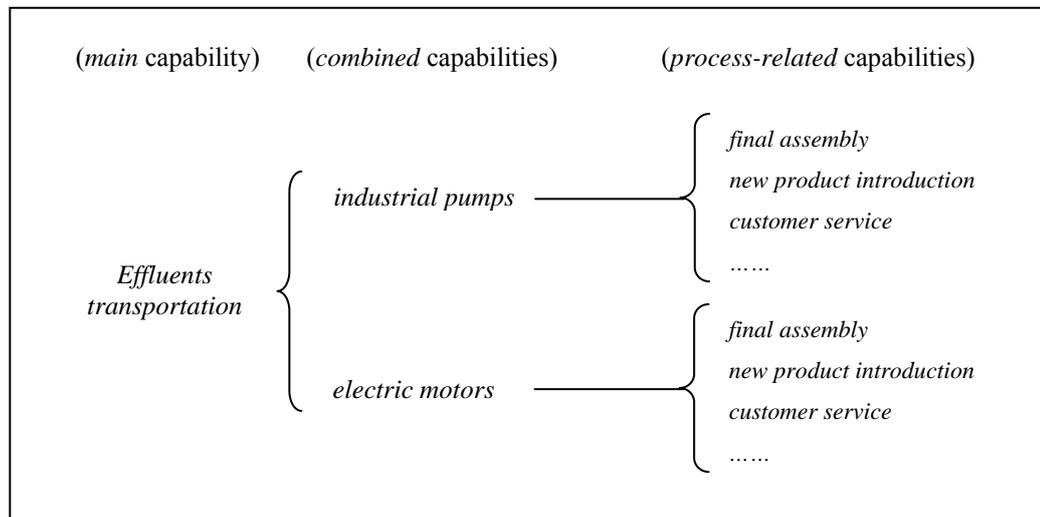


Figure 5.23: Depicting TIE’s main capability “effluents transportation” (representation)

In order to manage the acquisition of knowledge and the deployment of capabilities, TIE’s “building team” was divided in two committees, one to each combined capability. In the case of “electric motors”, the committee concluded that TIE should acquire SMEM, a small manufacturer of electric motors (method “merger and acquisitions”), which owned adequate knowledge (and capabilities) for all TIE’s demands, except for “new product introduction” (NPI). In view of that, the committee decided to acquire the missing knowledge on NPI working together with a consulting firm (method “assisted internal development”). Thereafter, a new process of NPI was designed and a comparison between (i) the necessary “resources base” and (ii) the inventory of resources and capabilities identified that most of the demands were already available in SMEM; yet, resources and skills of Computer Aided Design (CAD) should still be acquired. The renewed “resources base” and the knowledge on NPI were continually applied in new product lines and, thus, new knowledge was acquired, resulting in a permanent development of NPI. As all process-related capabilities were deployed, their integration was coordinated by the combined capability “electric motors”, which applied also a specific “resources

⁷⁹ The present case is intentionally simplified and will detail only the capabilities related to “electric motors”. This example might also suggest the necessity of *process-related* capabilities to each “family” of motors and pumps, since, for instance, their production and development processes can be very different.

base” that included managerial skills and PPC information systems, among other resources.

Initially, the combined capabilities were exploited in different niches of the markets of electric motors and industrial pumps. When both combined capabilities reached high technological stages, they began to be combined in the offer of products related to “effluents transportation”⁸⁰. For that, TIE acquired a new “resources base”, which consisted of teams of integrated engineering and market research as well as information systems. The continuous integrated application of the “electric motors” and “industrial pumps” resulted in the deployment of a main capability of “effluents transportation”.

Considering that the missing capabilities (as identified in step 1B) are built through step 2, all competences indicated in the *strategic architecture* are available. The proposed model of CCM now moves towards the integration and application of these capabilities⁸¹, as they should form new *core competences* (step 3).

5.2.3 Step 3: Integration and Application

As explained previously⁸², the *strategic architecture* indicates the *core competences* and related capabilities a firm plans to own to conquer an expected market leadership. While some of these capabilities already exist (identified in step 1B), other ones need to be acquired (step 2). When all of them are available and integrated, new *core competences* may emerge and generate “end” or “core” products. With the purpose of advising the integration and application of capabilities, the present step 3 suggests some guidelines (figure 5.24).

⁸⁰ This example of TIE intends to suggest a trajectory to the building of capabilities that are related to the *strategic architecture*. This explanation might also concern the expansion of the capabilities to serve the whole markets of electric motors and industrial pumps.

⁸¹ The explanations in step 2 also involved the application of capabilities, focusing on their deployment; however, the application is a major topic of step 3, where the main interest resides in how the application is related to the generation of products and the emergence of *core competences*. As explained in chapter 5.2, there are interrelations among the different steps of CCM, and the case of “application” is clearly related not only to step 3, but also to steps 2 and 4.

⁸² See chapter 4.1.1.1.

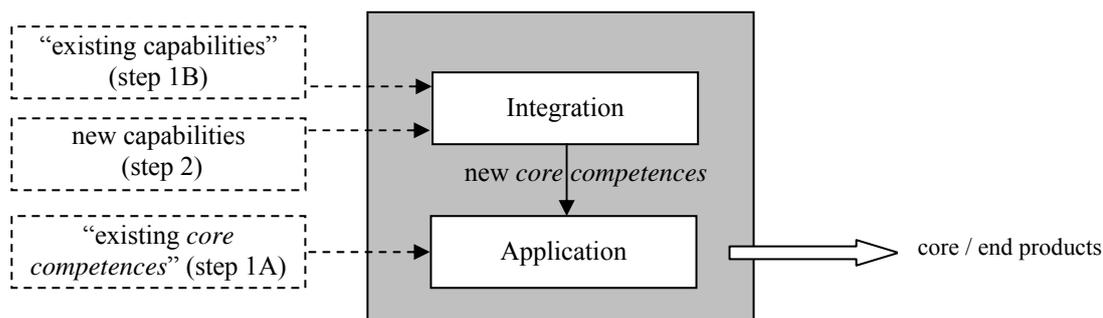


Figure 5.24: Step “integration and application” (schema)

There is not a clear line dividing “integration” and “application”, since they may occur simultaneously; yet, they will be separately presented, in order to facilitate their explanation.

Integration

The integration concerns how different capabilities are combined to form new *core competences*. It may be discussed in several aspects, such as (i) the mobility of competence holders, (ii) the necessity of “blending” capabilities and (iii) the “balancing” of capabilities⁸³.

(i) Mobility of competence holders

In traditional Western firms, many business units consider their human resources as own property, and not as corporate ones. In this context, there is a reluctance to “borrow” the relevant staff to other organizational units⁸⁴ and, as a consequence, two different disadvantages emerge:

*“First, because potential opportunities to exploit the competence in new market areas go unexploited, growth is slower than it might otherwise be. Second, because the people that comprise the core competence are not as stretched nor as fully utilized as they might be, their skill, and hence the core competence, erodes”*⁸⁵.

⁸³ Other aspects might be e.g. the adaptation of organizational structure, human resources management and organizational culture. A complete list of issues related to the integration may be impossible to be formulated, thus only some topics are here suggested, namely those approached by Hamel and Prahalad (1996).

⁸⁴ Prahalad and Hamel (1990: 87) and Hamel (1994: 30-31). These statements of Hamel and Prahalad were published in the beginning of the 1990s and, apparently, there is no further information that confirms that the mobility of competence holders became later a common practice of corporations.

⁸⁵ Hamel (1994: 30-31). A similar commentary of Prahalad and Hamel (1990: 87) complemented this explanation: “When competences become imprisoned, the people who carry the competencies do not get assigned to the most exciting opportunities, and their skills begin to atrophy”.

By contrast, successful Japanese firms stimulate the exchange of specialized people, providing mechanisms to share and transfer the “competence holders” among the different units⁸⁶. This mobility helps integrating capabilities, since the participants act as carriers of knowledge: as they face other units and technologies, new forms of combining the existing capabilities may be realized and exploited.

In order to trigger the integration through the mobility of competence holders, some guidelines may be suggested, such as:

- To disseminate an organizational culture that sees the firm as a portfolio of capabilities, and not just of business areas⁸⁷;
- To institutionalize cross-organizational project teams, which have freedom to request “competence holders” from different units⁸⁸;
- To involve generalists in the “integration team”, not just specialists⁸⁹;
- To promote meetings of competence holders in order to induce the exchange of ideas⁹⁰.

(ii) *The “blending capabilities”*

The discussion on “resources leverage”, namely in the category of *complementing*, also deals with the integration through the aspects of “blending” and “balancing”⁹¹. The first one stresses that just to own top capabilities is not enough to provide some competitive

⁸⁶ Hamel and Prahalad (1996: 256).

⁸⁷ It is important that managers share a common agreement concerning key development priorities, in order to facilitate the borrowing of the necessary resources to the businesses where they are required - it is necessary a view of the corporation as “a pool of widely accessible skills and resources” (Hamel and Prahalad, 1996: 188).

⁸⁸ Hamel (1994: 31). The formation of a “taskforce” at Canon was shortly described by Goold et al. (1997: 298-299).

⁸⁹ Hamel and Prahalad (1996: 236) affirmed that “What is required are generalists, not just narrow specialists. Experts who are sympathetic to other disciplines, and who can overcome the parochial perspective of their specific technical or functional background, are rare”.

⁹⁰ Hamel and Prahalad (1996: 257) complemented: “The mobility of competencies is also aided when the employees who comprise a particular competence meet frequently to exchange ideas and experience. Seminars and conferences are important for instilling a sense of community among people working in the same competence”.

⁹¹ The capabilities demanded by “blending” or “balancing” should be previously identified and acquired; yet, their importance is stressed mainly in the present step 3.

advantage, as excellent abilities to combine them are also needed. These “blending” capabilities are related to three different issues⁹²:

- “technological integration”: besides owning top technologies, abilities to successfully combine them are also necessary. The capacity to blend technologies “requires technology generalists, systems thinking, and the optimization of complex technological trade-offs”⁹³,
- “functional integration”: skills to harmonize different functional capabilities are essential, since organizational barriers frequently hinder the transformation of functional expertises in successful products,
- “new product imagination”: in addition to those related to technological and functional integration, competences to imagine new applications from the combination of existing capabilities are required, in order to provide innovative products.

(iii) “Balancing”

A firm that owns a special capability, which may allow the gain of advantages in the market, also needs skills that enable its successful exploitation; otherwise it may not be possible to acquire all potential profits from that. In view of that, the aspect “balancing” stresses the necessity to have equilibrium on three capability-“legs”:

*“a strong product development capability, a capacity to produce its products or deliver its services at world-class levels of cost and quality, and a sufficiently widespread distribution, marketing, and service infrastructure; in short, a capacity to invent, make and deliver”*⁹⁴.

If a firm lacks some of these “legs”, the use of its unique competences depends on business partners, which, due to their good bargaining position, share the potential profits to be

⁹² Hamel and Prahalad (1996: 184-185).

⁹³ Hamel and Prahalad (1996: 184). These authors exemplified that a “car company could hire the best engineers and technologists, and lavish billions on R&D, and still not produce the best engines. A competence in powertrains requires the integration of management systems, advanced materials, and so on. What is critical is an ability to harmonize a wide variety of disparate skills and technologies” (Hamel and Prahalad, 1996:236).

⁹⁴ Hamel and Prahalad (1996: 185). These authors mentioned, as example, the case of EMI, who invented in the early 1970s the computerized axial tomography; however, EMI did not have a strong sales and service network, as well as appropriate manufacturing skills, and thus it was not able to get the possible profits that its revolutionary product could generate.

gained. Such a dependency on partners, yet, may be accepted while the missing “legs” are still being acquired (e.g. by *borrowing*)⁹⁵.

The three aspects on “integration” presented in (i), (ii) and (iii) should be considered just as a starting point to the combination of capabilities, as different contexts will require distinct demands to be observed.

Since competences are combined in the deployment and offering of products, this integration paves the way for the emergence of *core competences*. The underlying “capability of integration” may give rise to a new *core competence*, whose formation may be explained by the terms employed in step 2: initially, starting from the existing knowledge, a concerning “resources base” is acquired and a “rough” capability of integration becomes available. As applications take place, the learning results in the enhancement of the “resources base” and the “rough” capability of integration⁹⁶ (figure 5.25).

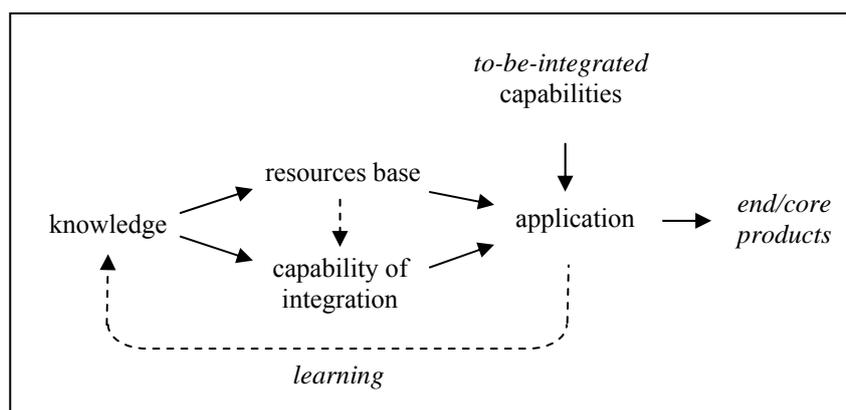


Figure 5.25: Pattern of deployment of a core competence

⁹⁵ Hamel and Prahalad (1996: 185-186). These authors complemented their idea on “balancing” as follows: “Whatever the nature of imbalance - whether strong on distribution and weak on product development, strong on manufacturing and weak on distribution, or another combination - the logic is the same. A firm cannot fully leverage its accumulated investment in one dimension if it does not control, in a meaningful way, the other two dimensions” (Hamel and Prahalad, 1996: 186).

⁹⁶ Prahalad and Hamel (1990: 85) had already commented that “core competencies are built through a process of continuous improvement and enhancement...”. The explanation of Bogner and Thomas (1994: 118) corroborates this logic of formation of a *core competence*: “By learning, we refer to the acquisition of new and unique knowledge through experimentation. Competencies evolve through an iteration of doing, learning and doing some more. Each sequence expands knowledge and enriches core competence”.

From the moment on when this “capability of integration” matches the criteria “customer value”, “competitor differentiability” and “extendability”⁹⁷, then it may be considered a *core competence*.

Application

The application of *core competences* may provide two classes of products: “end” and “core” ones⁹⁸. End products are those offered to final customers, such as printers, cars, digital cameras. Canon provides some well known examples of combinations of *core competences* to the manufacture of several end products (figure 5.26).

Product	Precision Mechanics	Fine Optics	Microelectronics	Electronic Imaging
Basic camera	X	X		
Compact fashion camera	X	X		
Electronic camera	X	X		
EOS autofocus camera	X	X	X	
Video still camera	X	X	X	X
Laser beam printer	X	X	X	X
Color video printer	X		X	X
Bubble jet printer	X		X	X
Basic Fax	X		X	X
Laser fax	X		X	X
Calculator			X	
Plain paper copier	X	X	X	X
Battery PPC	X	X	X	X
Color copier	X	X	X	X
Laser copier	X	X	X	X
Color laser copier	X	X	X	X
Still video system	X	X	X	X
Laser imager	X	X	X	X
Cell analyzer	X	X	X	X
Mask aligners	X		X	X
Stepper aligners	X		X	X
Excimer laser aligners	X	X	X	X

Figure 5.26: Application of Canon’s *core competences* in different “end products”
Source: Hamel and Prahalad (1996: 251)

The competition for end products is an issue of business strategies, which are largely discussed in the strategy literature; yet, the most profitable competition may occasionally take place for core products, which are “the physical embodiments of one or more core

⁹⁷ These three criteria were explained in chapter 4.1.1.2.

⁹⁸ For further explanations on “core” and “end” products, see Hamel and Prahalad (1996: 237-242).

competencies”⁹⁹. Figure 4.2¹⁰⁰ illustrated the metaphor of “corporation as a tree”, which also symbolizes the relationship between a firm’s *core competence*, core and end products. As core ones are behind the offer of several end products, they may be taken as basis for diversification¹⁰¹.

Core products, such as flat screen displays and laser printer engines¹⁰², are either utilized as components in own end products or sold to other firms, which (1) assemble them in their end products or (2) market them under their own brand name¹⁰³. Distinct reasons can make a firm to sell core products, such as to “borrow” distribution channels, to acquire financial means to the development of *core competences*, to capture a “virtual market share” or to keep an influence on the technological paths of the market. Moreover, while the gain of an end product monopoly would face legal obstacles, “there are often no such constraints on core-product share, and hence core competence share”¹⁰⁴. Canon and Samsung were examples of firms with high “core product share”: the first one sold “laser printer engines” (core products) to other firms that assembled them in laser printers, causing that the “core product share” of Canon was “far higher than its brand share in laser printers”¹⁰⁵. Similarly, one third of what Samsung made was “sold as a component in someone else’s product or under someone else’s brand name”¹⁰⁶.

As *core competences* are applied to the offer of core and end products, it is necessary to take initiatives to keep them as sources of competitive advantage. The following step 4 deals with

⁹⁹ Prahalad and Hamel (1990: 85). These authors added also another similar definition: “A core product or platform is most typically an intermediate product somewhere between the core competence and the end-product” (Hamel and Prahalad, 1996: 237).

¹⁰⁰ See chapter 4.1.1.1.

¹⁰¹ Bogner and Thomas (1994: 115). Hamel and Prahalad (1996: 253) commented that “Diversification may appear to be unrelated in product-market terms (as in the case of Cargill, 3M, and Honda) but may be closely related in terms of core competencies”.

¹⁰² These core products were associated with Apple and Canon, respectively (see Hamel and Prahalad, 1996: 237).

¹⁰³ Hamel and Prahalad (1996: 237-238).

¹⁰⁴ Hamel and Prahalad (1996: 238).

¹⁰⁵ Hamel and Prahalad (1996: 237). In a previous work these authors commented that “Canon is reputed to have an 84% world manufacturing share in desktop laser printer “engines”, even though its brand share in the laser printer business is minuscule” (Pralhad and Hamel, 1990: 85).

¹⁰⁶ Hamel and Prahalad (1996: 238). These authors acquired this information from the following article: “Samsung’s Radical Shake-Up”, *Business Week*, 28 February 1994, p. 74.

the protection and the improvement of *core competences*, which also play an important role in CCM.

5.2.4 Step 4: Protecting and Improvement

Since markets evolve, *core competences* need to be continually protected and improved for several reasons, such as: (1) the product functionalities that sustain the differentiation may become the standard of the industry, (2) the fast development of new technologies may rapidly diminish the value of some product lines and (3) the capabilities that are related to some competitive advantage attract competitors to deploy efforts of imitation. In view of that, step 4 (figure 5.27) complements the model of CCM, proposing some guidelines for their protection and improvement.

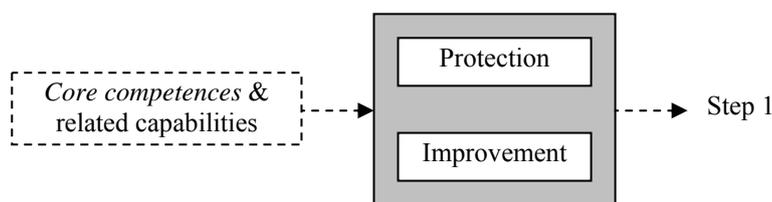


Figure 5.27: Step “Protection and Improvement” (schema)

Although improvement and protection are in many cases interrelated, they will be approached in different explanations, due to their particularities.

Protection

The value of a capability is permanently threatened by imitation, substitution, erosion and unexpected changes of the firm environment. While substitution and imitation are caused by externally inducted changes, as through technological advance or competitor actions etc, several external or internal firm factors may be responsible for the devaluation of resources and competences due to “asset erosion”¹⁰⁷. Concerning their preservation, three basic strategies (or “bundles of measures”) may be considered and will be summarized in the

¹⁰⁷ Hümmel (2001: 311). Hamel and Prahalad (1996: 258) affirmed that the leadership on *core competences* “may be lost in many ways”, as for example, due to (1) fragmentation among division areas - specifically if there is no one responsible for the competences -, (2) surrender to alliance partners or (3) divesting of some underperforming business that is somehow related to the *core competence*. Concerning this last possibility, an unlucky case of divest happened at Motorola, which sold its television plants (including their competences) to Matsushita, in the 1970s, and later Motorola “has recognized that it must rebuild a competence in video displays” (Hamel, 1994: 32).

following¹⁰⁸: (1) protection of the existing resources position, (2) preservation through permanent development and (3) early identification of possible threats¹⁰⁹.

Protection of existing resources positions

The imperfect imitability or substitutability of a resource depends on characteristics of causal ambiguity, social complexity, and limited mobility and transferability¹¹⁰. Apart from the recommendations for maintaining these features, there are few concrete suggestions for the protection of strategic resources. These propositions may be structured in seven categories¹¹¹:

- Safeguarding of rights of disposal
- Safeguarding of internal information
- Safeguarding the accesses to critical resources
- Reducing the incentive for threat
- Credible threats with retaliation
- Obstruction of competitors resource building
- Collectivization of individual knowledge

Although these measures should be successful to protect existing capabilities, they may not be sufficient in very dynamic markets, where the value of competences erodes rapidly due to the constant introduction of new technologies. In this context, more important than initiatives of simple protection may be strategies for a continuous development of existing resources¹¹².

¹⁰⁸ Hümmer (2001: 312). This author structured these categories on the basis of a previous work published by Rotem and Amit (1997).

¹⁰⁹ Hamel and Prahalad (1996: 258) stressed that the protection of *core competences* requires a continuous vigilance: to division managers might be assigned a role of cross-corporate stewardship, so that competences become supervised, and at a collective edge, “competence review” meetings should take place, in order to keep the focus in many issues, such as “levels of investment, plans for strengthening constituent skills and technologies, internal patterns of deployment, the impact of alliances, and outsourcing”.

¹¹⁰ See chapter 2.4.3.2.

¹¹¹ See Hümmer (2001: 313-318) for details of these categories, as well as the consulted sources.

¹¹² Hümmer (2001: 318).

Preservation through permanent development

In a dynamic competitive environment, a superior resource position may be sustained only if the concerning resources are constantly developed in a continuous process of learning and renewal¹¹³. Accordingly, the permanent use of *core competences* represents an appropriate basis for their protection and evolution:

*“Core competence does not diminish with the use. Unlike physical assets, which do deteriorate over time, competencies are enhanced as they are applied and shared. But competencies still need to be nurtured and protected; knowledge fades if it is not used”*¹¹⁴.

Since learning is considered critical to maintain competitive advantages, a capability to fast organizational learning, to build and to smartly integrate resources and competences is also a decisive factor to protect competences. Accordingly, the protection through the constant development and change of capabilities may be interpreted as a strategy of adaptation or even of acceleration of the market dynamics. So, a strategy of acceleration through (i) early launching and successive improvement of innovative end products and (ii) learning under “real market conditions” supports not only the effective application of *core competences* but also contributes to the possibility of a rapid learning, besides protecting competence-related advantages. Moreover, the fast sequence of new improved product generations in the high-tech competition and the permanent development of their competences make firms “moving targets”, which offer competitors few chances to the analysis and imitation of products and resources at the necessary pace¹¹⁵.

Protection through the early identification of threats

The preservation and the continuous development may be very contributing to the protection of resources; however, they may be not enough to protect against revolutionary innovations in the market. Thus, it is necessary to identify, as soon as possible, potential threats to the

¹¹³ Hümmel (2001: 318).

¹¹⁴ Prahalad and Hamel (1990: 82). The aspect “recycling” stressed the idea that “the more often a given skill or competence is reused, the greater the resource leverage” (Hamel and Prahalad, 1996: 186). These authors made reference to firms as Sony, Sharp and Honda, which continuously transfer and redeploy their competences into new applications.

¹¹⁵ Hümmel (2001: 319).

existing resources configuration, so that its change and renewal may be timely realized. The early identification of threats may be based on two approaches¹¹⁶:

- Early warning systems: potential threats should be identified through e.g. the monitoring of indicators of customer satisfaction, the analysis of feedback from distribution channels, a benchmark with competitors and the study of their behaviour¹¹⁷;
- Strategic monitoring of resource positions: the monitoring of the environment, as part of the strategic control, is important not only to identify threats to a firm's strategy but also to the existing resources and competences.

Since the monitoring of potential threats provides information on the market evolution, there is an acquisition of important information that may be used to revise (if necessary) the design of the *strategic architecture*, which may require corresponding actions in the other steps of CCM.

Besides these three groups of "protection strategies", other defensive attitudes may also be considered, which were suggested in the "resources leverage" discussion¹¹⁸: when competing against stronger competitors, it should be avoided (as far as possible) to fight according to their rules. Instead of that, firms should (i) look for weaknesses in competitors' home markets and exploit them by means of innovation or (ii) fight for business niches that are not served by the main rivals yet.

Improvement

As previously commented¹¹⁹, a capability may be improved through its continuous application, as the accumulated experiences change the underlying knowledge and, indirectly, the own capability. While this argumentation may be applied to any type of capability, other specific initiatives may also be suggested for the cases of *core competences* and *process-related* capabilities.

¹¹⁶ Hümmer (2001: 320-321).

¹¹⁷ Deutsch et al. (1997: 45) commented that it is necessary to observe the behaviour of rivals to evaluate if they make efforts towards different ways of (1) satisfying, (2) elevating or (3) imitating the offered customer value. Attitudes concerning hiring of important personal need also to be monitored.

¹¹⁸ Hamel and Prahalad (1996: 189-190).

¹¹⁹ Chapter 5.2.2.

On the one hand, the continuous reapplication of a *core competence* in new products is not only a way of gaining competitive advantages, but also a permanent opportunity of expanding (or enriching) the available knowledge, resulting in the improvement of the own *core competence*. On the other hand, the enhancement of *process-related* capabilities may be induced by initiatives of continuous optimization of the corresponding processes^{120,121}. Moreover, as argued with regard to the deployment of a *process-related* capability (step 2), its constant application - by the execution of processes - provides knowledge and the evolution of own competence.

Although capabilities may be enhanced, it is difficult to measure their improvement, since they are intangible attributes: even if the optimization of a *process* may be quantified by different indicators - such as costs, time or non-quality levels -, the change of a capability cannot be numerically explained. For instance, if some initiative of optimization caused a cost reduction of 2% in a process, it is not possible to estimate “how much” the associated *process-related* capability improved, but just to affirm that there was a certain grade (e.g. few or much) of enhancement.

5.3 Evaluating the Contribution of *Process-Orientation*

As chapters 5.1 and 5.2 proposed contributions to structure the relationship between *process-orientation* and CCM, it is important to emphasize the main innovations offered as well as some limitations of these suggestions. Initially, chapter 5.3.1 assesses the frameworks of the relationships between (1) capabilities and processes and (2) *core competences* and other capabilities. Thereafter (chapter 5.3.2), the discussion deals with the model of CCM (figure 5.28).

¹²⁰ Chapter 3.3.1 summarized the main ideas on *process improvement* and indicated some common techniques that may be used to apply this approach of *process management*.

¹²¹ Krüger and Homp (1997: 109-110) proposed the introduction and use of learning and improvement processes to the improvement of competences. These authors suggested the application of concepts belonging to the scope of *process management* (chapter 3.3) and also others ones, namely benchmarking and employee suggestion system.

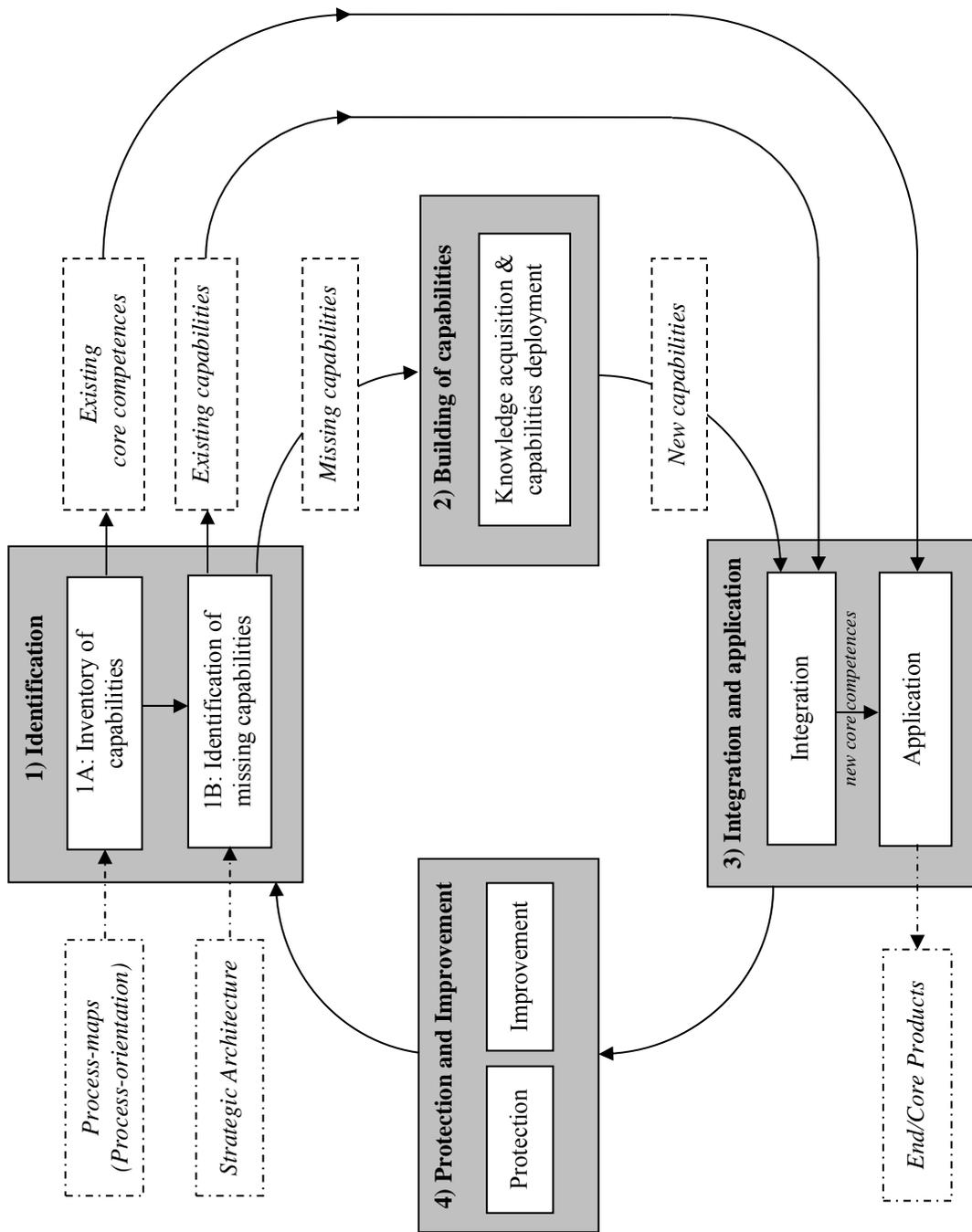


Figure 5.28: Proposed model of core competence management (schema)

5.3.1 Evaluating the Relationship Frameworks

The frameworks of the relationships between capabilities and processes (figure 5.5) and *core competences* and other capabilities (figure 5.8) were deployed on the bases of the few works that discuss these links. Although some publication may not have been considered, the presented ideas should represent innovative contributions, which may be improved in future works.

As a limitation, the comprehension of these frameworks requires considering the concepts adopted in the present work. Thus, other interpretations on the meaning of e.g. “process” or “core competence” may be inconsistent with the deployed discussions.

Another limitation of the model consists in the fact that some capabilities, such as those related to the organizational culture, may not be identifiable with basis on the deployed frameworks. Similarly, “potential” competences that might emerge from the integration of capabilities may not be recognizable, as the proposed frameworks are based on the existing processes.

The discussions of following chapter 5.3.2 contain also evaluations concerning the deployed frameworks. As these commentaries are related to specific parts of the model of CCM, they are discussed outside of this chapter 5.3.1.

5.3.2 Process-Orientation in the Model of Core Competence Management

The model proposed in chapter 5.2 has been created with the purpose of integrating *process-orientation* into CCM. The present chapter now intends (1) to highlight what are the contributions of this model with regard to this objective as well as (2) to identify some limitations of this proposal.

Step 1 (Identification):

The identification of *core competences* is based on a test of all existing capabilities¹²², which are inventoried through an analysis of the process maps. Concerning the completeness of this inventory, on the basis of the following assumptions it is supposed to be representative:

- Every action in a firm is related to one process - a “basic rule” of *process-orientation*,

¹²² The test is related to the three criteria that characterize a *core competence* (see chapter 4.1.1.2).

- Each process is associated with several competences: *process-related*, *combined* and *main* capabilities, as well as others at the different process levels, and
- The analyses of process maps, which should be available in an environment of *process-orientation*, allow identifying the involved resources and capabilities.

Even if no *core competence* is identified during the tests, the inventory has other important functions: it helps to verify (1) what capabilities, from those required in the *strategic architecture*, are already available and, thus, (2) which ones are still needed to be acquired.

Some limitations should be observed:

- capabilities that are not being used and, thus, are not visible in process maps may not be identifiable. This may be the case of “potential” combinations of competences from different business units, whose integration might generate innovative applications.
- as *process-orientation* is mainly based on the alignment of the organizational structure with the *operational* processes, the maps of *management* processes may not be available and, thus, the inventory will be incomplete.

Step 2 (Building):

The step “building” is mainly structured on (1) methods for acquisition of knowledge and (2) the proposal of a pattern of capabilities deployment; moreover, initially there is also a key indication concerning the hierarchy of capability building (figure 5.18). According to that, the acquisition of any competence is somehow related to *process-orientation*, as the *process-related* capabilities (and those at the process sub-levels) should be the first to be built¹²³. Moreover, as the *process-related* capabilities are integrated by *combined* capabilities, measures related to the management of the latter are somehow related to the former ones, and indirectly, to the involved processes.

Concerning the proposed pattern of capability deployment, it presents several interfaces with *process-orientation*, such as:

- The deployment of *process-related* capabilities initially requires the design of the respective processes, which may be modelled through reengineering techniques;

¹²³ Of course, this is not applicable in the case of firm acquisitions, by which complete *combined* or *main* capabilities may be internalized.

- The development of *process-related* capabilities is related to the continuous improvement of the corresponding processes;
- The application of a *combined* capability involves the specific “resources base” and *process-related* capabilities.

As a limitation of this step 2, it should be observed that the deployed pattern for capability building intends meeting the demands of this model of CCM, without the aim of offering a general rule to the theory of capability building¹²⁴.

Step 3 (Integration and Application):

It is clear that step 3 does not highlight *process-orientation* as the previous steps do, as the focus is here to present general guidelines for the integration and application of competences. However, some aspects related to the *process-related* capabilities should be clarified. Firstly, there is a reference to the necessity of owning competences in “functional integration” (a case of “blending capabilities”). The following commentary of Hamel and Prahalad supported this idea:

*“In firms where narrow functional specialization and organizational chimneys prevent such integration, functional excellence rarely gets fully translated into product excellence. In such cases a firm may outinvest its competitors in every functional area, but reap smaller rewards in the marketplace”*¹²⁵.

This affirmation presents some resonance with a major assumption of *process-orientation*, namely that the borders among functions hinder the performance of cross-functional processes¹²⁶. However, the optimal coordination of resources and capabilities related to the processes is exactly the aim of process-oriented approaches, whose implementation should help solving the problems of “functional integration”.

¹²⁴ The proposed “pattern” was presented since the literature does not offer, apparently, structured methods for capability building. The aspects of “resource leverage” mentioned in step 2 do not form exactly a procedure, but (1) issues to be considered to concentrate resources on the capability building (*converging, focusing, targeting*) and (2) simplified descriptions on how to accumulate capabilities-related knowledge (*mining and borrowing*). These guidelines are important, however, they can not be considered structured procedures.

¹²⁵ Hamel and Prahalad (1996: 184).

¹²⁶ The discussion on organizational “silos” (chapter 3.2.1) deals with the problems of integration among different functions.

Although the integration and application of capabilities result in the production of process-outputs, step 3 presents few guidelines concerning the link between the management of (i) *core competences*, which is defined at the corporate level, and (ii) the related processes, which are located in specific business units¹²⁷. This is a limitation of step 3, which might be further improved. The framework deployed in chapter 5.1 and the presented model of CCM represent foundations a complementing work might be built on.

Step 4 (Protection and Improvement):

As explained for the deployment of capabilities (step 2), their repetitive application provides new opportunities of optimization due to the accumulated knowledge. Moreover, in the case of *process-related* capabilities the enhancement may also be accelerated through approaches of *process improvement*¹²⁸.

As a limitation of *process-orientation*, this one presents restrictions concerning the optimization of *management* processes, which are usually of network-type and not easy to describe¹²⁹. Thus, if these processes cannot be well understood, it is also difficult to adopt initiatives to protect the corresponding process-related capabilities¹³⁰.

General limitations

So far some limitations that are specific to the different steps were commented, yet, there are also others that are related to the model as a whole. At first, it is important to observe that this proposal was deployed with the objective of offering a “process-oriented” perspective of CCM, which may (should) complement or be complemented by other works.

A first limitation is that this model contains few indications of who should take part in CCM: initially, it is required that senior managers and cross-functional teams are involved and, thereafter, there is just an indication on “building teams” (step 2). As several issues have to be planned and implemented in CCM, such as the inventories, knowledge acquisition, capability deployment, experts exchange, and research and deployment of (core and end)

¹²⁷ It should be considered that the business units are related not only to *core competences*, but also to product-market strategies. Hamel and Prahalad (1996: 242) stressed, however, that due to their long-term importance, *core competences* should become the “central subject of corporate strategy”.

¹²⁸ See chapter 3.3.1.

¹²⁹ See chapter 3.2.2.2.2.

¹³⁰ As a paradox, the impossibility of understanding exactly a process helps to protect it, as argued for a key condition of the imperfect imitability: the causal ambiguity (chapter 2.4.3.1.1.2).

products etc, specific teams for each of these matters should be constituted during the implementation of the model. These teams should, anyway, be coordinated by the CCM leading staff.

An obstacle to CCM is the fact that capabilities are intangible and, thus, cannot easily be delineated – e.g. different managers would probably provide different descriptions to a capability of “product development”. Thus, it is difficult to define an exact form of recognizing when a capability is e.g. completely identified, built or integrated. So, it is essential that the CCM “committee” owns and promotes a shared understanding among all participants, with regard to the involved capabilities.

Without any doubt, this model of CCM could be better evaluated if it could have been tested in the practice, through a case study etc. However, this one would face several hindrances, most of them related to the time and resources required to implement the proposal:

- Initially, the necessary inputs should be reachable - namely, the process-maps and the *strategic architecture*. The availability of the former should not be a problematic matter, as *process-orientation* became popular in the 1990's; yet, the latter is an instrument created specifically to this logic of “getting the future first”¹³¹ and is probably found only where some kind of CCM is already implemented¹³². As the design of a *strategic architecture* requires several resources, since it involves studying and predicting tendencies of market and technological deployment, a case study would need long time and expenses to reach representative results;
- Similarly, the making of a capabilities inventory would require several efforts and long time. A pilot project could even be executed in a given business unit; however, its value for the evaluation of the model would, supposedly, not be very relevant.
- The building, deployment, integration and application of capabilities require also a long time to take place. Thus, the necessary time-range represents a relevant difficulty to deploy a study case.

¹³¹ See chapter 4.1.1.1.

¹³² It does not mean, yet, that a given CCM is necessarily related to the concept of Hamel and Prahalad, as there are more “understandings” of it, as the evaluation of the literature concluded (chapter 4.1.2).

Moreover, as the proposed model is intended to be just a “core” a more complete CCM should be built on, several interfaces with other management perspectives were not considered. Some necessary issues to be integrated with this model are:

- Other views of strategic management: for example business and horizontal strategies as well as the “strategic management process” (strategic planning, control and implementation);
- operations management, especially through a process-oriented view;
- human resources management, including the idea of firms as portfolios of “competence holders”; and
- technology management, integrating the innovation processes in CCM.

Another limitation concerns the management of the “other available competences” (step 1B), as they do not belong to the demands of the *strategic architecture*. As previously suggested, this kind of capability should be managed outside the CCM, e.g. by means of business strategies or outsourcing.

As previously commented¹³³, a problematic issue, not only in the present one, but apparently in all models of CCM, is that there is no exact definition of the management functions to be executed. The model offered in chapter 5 did not propose a clear definition about that, since it was intended to maintain the logic of Hamel and Prahalad’s model.

A final commentary concerns the way how future *core competences* are defined. As explained in step 1¹³⁴, the *strategic architecture* plays the role of defining what new *core competences* should be built. This was also the procedure followed in the work of Hamel and Prahalad (1996)¹³⁵: based on the perspectives identified for the future markets, the *strategic architecture* indicates the new product functionalities to be offered, the concerning customer interfaces and the necessary *core competences* to meet these demands¹³⁶. Although the

¹³³ See commentaries in chapters 4.2 and 5.2.

¹³⁴ Chapter 5.2.1.

¹³⁵ See chapter 4.1.1.1. It may be also commented that the necessity of a *strategic architecture* as input to CCM is practically underestimated (or even ignored) by other works on CCM, probably because these are apparently more interested in the management of the current *core competences* than in the building of the future ones, which would require necessarily a link with the *strategic architecture*.

design of the *strategic architecture* might have been included as the first step of CCM, the present proposal avoided to approach it, for two main reasons:

- (1) The close alignment with the original model of Hamel and Prahalad - the main reference of the present proposal -, who kept the design of the *strategic architecture* and CCM separate, and
- (2) The design of the *strategic architecture* would represent an extensive step for CCM and would not concern its link with *process-orientation*¹³⁷, as this one is not related to the definition of *future* product functionalities, customer requirements or *core competences*¹³⁸.

A limitation of the adopted procedure is that, as the *strategic architecture* is taken just as *input* for CCM, there is no *feedback* from its implementation to the *strategic architecture*. A revision mechanism might perhaps be included in CCM to solve such a deficiency. Anyway, the proposed model should be considered only as a basis other theoretical contributions may also be aggregated on.

5.4 Chapter Conclusions

Motivated by the little attention that the literature pays to *process-orientation* in CCM, chapter 5 deployed proposals to fill this theoretical gap. As only a few works discuss the relationship between processes and *core competences*, it was initially necessary to build two frameworks to help explaining this linkage (chapter 5.1). Thereafter, a model of CCM was deployed with the aim of showing how *process-orientation* may be embodied in the different steps of CCM (chapter 5.2). Finally, evaluations and limitations concerning these contributions were outlined (chapter 5.3).

In addition to the evaluations of the previous chapter, it is important to stress that the proposed model of “process-oriented” CCM, which was built on the two relationship frameworks, demonstrates through several interfaces at its four steps how *process-*

¹³⁶ As commented in chapter 4.2.2, the “core competence - market matrix” (step “Establishing a core competences acquisition agenda” of Hamel and Prahalad’s model of CCM) shows also some opportunity of defining new *core competences*, however, Hamel and Prahalad (1996: 249) assumed that the agenda of competences building is an issue of the *strategic architecture*.

¹³⁷ It is opportune to stress that the main objective of offering this model is to integrate *process-orientation* into CCM.

¹³⁸ Since *process-orientation* is reflected by the *existing* process-oriented organizational structure, there is a clear association with the *existing* processes (and capabilities), independent on the *future* ones.

orientation may be strongly linked to CCM. Although the present contribution is intended to be a basis to a more complete model of CCM that may be further proposed, the developed approach is probably innovative, as *process-orientation* did not deserve the same importance in other works on *core competence management*.

Other conclusions were also reached concerning how the contributions of the present chapter are related to other discussions of the present work. Such perceptions will be deployed in the following chapter 6.

6. Summary, Conclusions and Recommendations

This closing chapter summarizes the present thesis and reviews the discussions that represented a cumulative process towards the reaching of the objectives of this investigation. The initial motivation of this work was the understanding that the two views of competitive advantage of strategic management - the Market-based View (MBV) and the Resource-based View (RBV) - need a theoretically structured combination. Moreover, another problem considered in this research is the perception that the literature on *process-orientation* does not explicate its linkages with strategic management.

With the aim of understanding the main foundations of strategic management, this one was reviewed in **chapter 2**, with a special focus on the research streams that aim at identifying the sources of competitive advantage: the MBV and the RBV. After an initial summary on the evolution of the strategy thinking, the main concepts of the MBV and the RBV were presented. As main result of the literature analysis, the understanding was established that both views are not incompatible with each other, since they look for explaining the causes of competitive advantages in different firm perspectives: while the MBV's concepts intend to identify the sources of competitiveness in the market environment, the RBV's works target "strategically relevant" resources and capabilities. Thus, the Market-based and the Resource-based Views should be seen as complementary streams, as they analyse external and internal firm perspectives, respectively. However, there is apparently little interest from academic studies in developing instruments that integrate the MBV and the RBV. The present research considers this as a theoretical gap, since a combined application of both views should provide a more complete assessment of the sources of competitiveness – and thus a more qualified formulation of strategies – than the uncoordinated use of concepts belonging to these views.

To meet this theoretical demand, suggestions of concepts that interface both the external and the internal firms perspectives were identified in the literature¹, namely the business processes (and the underlying *process-orientation*) and the *core competences (management)*, which might be considered in the proposition of instruments to integrate the MBV and the RBV. Moreover, some studies have also stressed the importance of structuring the

¹ See Mikus (2003: 399-401).

relationship between *process-orientation* and *core competence management* (CCM), since they present similar characteristics.

In order to understand the role of *process-orientation* in the strategic management, **chapter 3** initially studied the evolution and concepts of the process thinking, as well as the main approaches of *process management*. On these previous foundations, a further review of the literature searched explanations about how processes and concerning management approaches have been explicated pertaining to the formulation and implementation of strategies. Finally, this chapter investigated how *process-orientation* has been considered in operations strategies.

As a result of the reviews of chapter 3, the present research concluded that the literature on *process-orientation* is negligent with regard to clarify the role of process-oriented concepts in strategic management, since few discussions about interfaces among the approaches of *process-orientation* and strategic issues could be identified. Moreover, while a part of the strategy literature highlights the competitive importance of operation capabilities, theories on operations strategies have been accused of not considering *process-orientation*.

The main gap identified in the literature review of chapters 2 and 3 is the explanation of the relationship between *process-orientation* and *core competence management*. The filling of such theoretical demand (1) could complement other studies that intended to structure interfaces between *process-orientation* and *core competence management*, (2) would move forward concerning the explanation of the role of *process-orientation* in strategic management and, finally, (3) might take part in a concept that helps integrating the Market-based and the Resource-based Views of competitive advantage. The following parts of this research were developed with the objective of meeting this theoretical demand.

Chapter 4 intended to identify how models of *core competence management* (CCM) deal with *process-orientation*. Initially a study of the conceptualization of *core competences* was deployed, starting with the seminal definitions of Hamel and Prahalad and the identification of different interpretations of *core competences* that emerged later in the literature. Thereafter, some models of CCM were described and assessed concerning the role played by *process-orientation*.

This study identified that the literature on CCM presents sporadic explanations concerning its relationship with *process-orientation*. Moreover, the few existing discussions on these interfaces are usually superficial, mainly due to terminological inconsistencies, which are

typical of RBV research. In this specific review the present work could also not recognize how the links between the concepts of “process” and “capability” - including the special case of “*core competence*” - are explained, representing another theoretical deficit.

In order to provide some contribution to fill the identified gaps, **chapter 5** offered a proposal that demonstrates how *process-orientation* may be considered in a model of CCM. Initially, it was necessary to develop two frameworks (figures 5.7 and 5.8) to structure the relationships between processes and capabilities, in order to support the following model. Due to the apparent lack of theoretical support to relate the concept of “process” to that of “capability”, the present work suggested a hierarchy of several levels, namely “process-related”, “combined” and “main” capabilities, besides those related to the different process levels. A *core competence*, as defined by Hamel and Prahalad (1996), represents another class, which concerns the integrated application of other capabilities.

On these previous bases, a model of CCM was created, which presents a close relationship with *process-orientation*, especially in the steps “identification” and “building”. A main limitation of this model is related to the fact that *process-orientation* considers mainly *operational* processes, thus *management* processes are barely approached. Moreover, as the proposal mainly intended to stress how *process-orientation* may be integrated into the management of *core competences*, it would still be necessary to add other managerial perspectives in order to construct a more “complete” model.

Besides the conclusions that were reached in the different chapters, other ones may also be highlighted here:

- The research work on *process-orientation* and *core competence management* pays little attention in considering each other. Besides being an opportunity to help linking corporate with functional strategies, the structuring of the interfaces between *process-orientation* and CCM might (1) offer a strategic point-of-reference to process-oriented approaches and (2) also allow that CCM be easily integrated to *process-orientation*.
- As a contribution to the practice of process-oriented approaches, the proposed frameworks may guide the setting of optimization priorities, since the processes that are related to *core competences* may be clearly identified and thus treated according to their importance.

- The frameworks and the model of CCM are apparently innovative proposals to explain not only (1) the interrelationship between the concepts of “process” and “capability” (including *core competences*) but also (2) how *process-orientation* may be considered in CCM, helping to understand the role of processes in strategic management.
- Another important conclusion concerns the terminological problems of the RBV: as they resulted in different concepts of “core competence”, different streams of work emerged, bringing as consequence e.g. that proposals that intended structuring the relationship between *process-orientation* and *core competence management* were built on different foundations, which cause difficulties to their convergence in a common theory.
- Finally, pertaining to the main objective of this research, as both *process-orientation* and *core competence management* are closely related to external (market) and internal (resources and capabilities) perspectives, the offered model of CCM should represent a contribution as a concept that helps integrating the RBV and the MBV. Although several concepts belonging to both research streams (and also other instruments of strategic management²) have not been considered in the presented proposal, this contribution should represent a solid starting point for further investigations towards the aimed integration.

The different investigations within the present work allowed identifying various theoretical demands, which are listed below as suggestions for future researches:

- As argued by Hamel and Prahalad, the *core competences* perspective was not proposed to substitute product-market view but to complement it. The subsequent literature has developed different faces of this theory; however, clear proposals that integrate *core competence*-based and product-market strategies seem not to be formulated yet. Thus, studies to complement the model offered in chapter 5 might discuss its integration with business strategies.
- The interrelationship between *process-orientation* and the functional (especially operations) strategies should still be structured theoretically, as it might explain the role of processes as strategy implementers. Furthermore, further researches might

² For several other strategic concepts, see Mintzberg et al. (2000).

define exactly what “process strategies” are (or might be), since these ones could help (1) clarifying the relationship of *process-orientation* with functional strategies and (2) improving the performance of a firm through an adequate “process strategy management”.

- As commented in chapter 5, the concept of “organizational routine” has been defined either in terms of “capability” or of “process”. Thus, further investigations might explain clearly how these terms are interrelated and if it is possible to offer a definition that embraces all understandings of these concepts.
- As chapter 4.1.2 has shown, the term “core competence” has been associated with distinct types of capabilities – and even with single resources – since they present competitive features. While it should not be expected that a new definition that embraces all possible meanings may be formulated, as these ones involve very different scopes, further investigations on the different “interpretations” might provide a “typology” of *core competences* to guide future works. Moreover, as these “extended” interpretations of *core competence* are criticized in the present work for lacking a theoretical foundation, other researches might perform a deeper investigation into the origin and justifications for the undifferentiated use of these concepts.
- The literature review has shown that Hamel and Prahalad’s *core competence* is characterized as a technology, corporate and future-oriented concept, which requires a long-term, complex and expensive implementation. Thus, this theory seems to have little utility to smaller firms and, also for this reason, has been criticized by authors that claim especially for “non-technological” *core competences*³. Moreover, as the RBV’s discussions are related to resources that allow gaining *sustainable* competitive advantages and these resources usually require high investments to be protected, applied and deployed, there is apparently a lack of guidelines to firms that do not own these “strategically relevant” resources. Such a problem should be investigated, since most of the firms probably face this restriction.

Considering the lack of discussions concerning these issues, the present research provides a contribution not only to the understanding and structuring of the interfaces between *process-*

³ See chapter 4.1.2.

orientation and strategic management, but also to the combination between the Market-based View (MBV) and the Resource-based Views (RBV) of competitive advantage. Following the identification of a specific theoretical demand, this work offered a proposal that integrates the *process-orientation* into a model of *core competence management* (CCM). This contribution adds new insights to the still young research field on *competence management* and supports not only its theoretical background, but also the associated management practices. As the present work represents only a basis on which further aspects of the management of *core competences* should be built, many questions remained open and still require further investigation.

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