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Management summary

Case Organisation is a family-owned logistics enterprise based across Europe. It has a progressive and open-minded management that is always looking for new ways to improve competitive strategy formation. One way is by focusing on core competences, which are harmonized combinations of resources and skills that give organisations a distinctive position in the environment in which they are operating. These are the sources of sustained competitive advantage and make the companies unique in its kind.

As a forward-looking enterprise, Case Organisation wanted to discover its own core competences. This research has been conducted to gain a deeper understanding of this organization's uniqueness and to identify and assess its current core competences.

The first part contains a thorough literature review of the concept, including theory on 'identification' and information on the European logistics sector. This was used to form a structured methodology to identify the current core competences of Case Organisation . It consisted of three phases; recognition of resources and skills, design of competences, and identification of core competences. For the final phase, an identification assessment model has been applied in a workshop-format.

The results of this research have indicated that Case Organisation currently possesses three core competences, At the moment, these items are giving the organisation a distinctive position on the market. However, all detected competences are significant and make sure the organisation can function effectively.

It is important that all competences (core and non-core) are nourished on a continuous base with more/better resources and skills. Furthermore, Case Organisation needs to determine what current competences require further development and what new ones need to be created concerning the external opportunities and threats. In addition, it is concluded that Case Organisation possesses deeply embedded resources and skills, which facilitate the development of all (new) competences. These organisation-wide resources and skills of Case Organisation form the fundamental basis of all competences.

Overall, effectively applying the core competence concept is the responsibility of management. When making strategies, the managers should consider what role the core

competences play in the process. The concept is at least a useful tool to create organisational self-awareness.

In short, this research contributes to science by presenting an extensive literature review of the core competence concept. Furthermore it describes a structured methodology to identify the current core competences of an organisation. Both the literature review, as well as the methodology can be used by academics that want to study the core competence concept. Finally, some interesting suggestions for further research are proposed at the end of this thesis.

Table of contents

ACKNOWLEDGEMENTS.....	II
MANAGEMENT SUMMARY	III
TABLE OF CONTENTS.....	V
INDEX OF FIGURES AND TABLES	VII
INDEX OF ABBREVIATIONS.....	VIII
1. INTRODUCTION: CORE COMPETENCES AND THE GROWING SIGNIFICANCE IN A MODERN COMPETITIVE ENVIRONMENT OF THE LOGISTICS SECTOR.	1
2. CORE COMPETENCES: A SIGNIFICANT CONCEPT FOR THE STRATEGIC MANAGEMENT OF ORGANISATIONS	4
2.1 THE CHANGING INTEREST IN STRATEGIC MANAGEMENT PERSPECTIVES FOR EXECUTIVES AND ACADEMICS	4
2.1.1 <i>Schools in strategic management: from market-based-view to resource-based-view and the role of core competences</i>	<i>4</i>
2.1.2 <i>Core competences: a popular topic in literature as from the 90's</i>	<i>8</i>
2.2 AN EXTENSIVE EXPLANATION OF THE CONCEPT OF CORE COMPETENCES	10
2.2.1 <i>The main idea of a core competence: the integration of skills and resources that provide firms unique potential to outperform competitors.</i>	<i>10</i>
2.2.2 <i>Skills: the abilities of human capital to perform a task successfully</i>	<i>14</i>
2.2.3 <i>Resources: assets with varying characteristics that can be used to create value</i>	<i>15</i>
2.2.4 <i>Core competences: combinations of integrated resources and skills that can be an organisation's source of sustained competitive advantage.....</i>	<i>16</i>
2.2.5 <i>Core Products: the physical link between an organisation's core competences and product portfolio</i>	<i>18</i>
2.2.6 <i>The core competence concept: similar to the anatomy of a tree.....</i>	<i>19</i>
2.2.7 <i>Consideration for core competences: nurturing existing tree and where to sow new seeds.....</i>	<i>21</i>
2.2.8 <i>Empirical results on core competences: provision of valuable information ..</i>	<i>23</i>
2.2.9 <i>Benefits of core competence concept: the powerhouse of organisational competitiveness but includes boundaries</i>	<i>25</i>
2.2.10 <i>Challenges in applying core competence concept: creating alignment within the organisation by defining the concept terms and concerted formulations</i>	<i>26</i>

2.3	OVERALL ASSESSMENT OF CORE COMPETENCES; INCLUDING IDENTIFICATION, OTHER RESEARCH MODELS AND IDENTIFICATION ASSESSMENT MODEL FOR THIS STUDY	28
2.3.1	<i>Initial steps in identification process: creating an universal understanding of the concept and selecting the participants</i>	28
2.3.2	<i>Models of core competences: depending on the type of research.....</i>	31
2.3.3	<i>Identification assessment model: a complete analysis of the quality of core competences</i>	33
3.	LOGISTICS: A PRIMARY SERVICE FOR THE EUROPEAN MARKET	39
3.1	THE LOGISTICAL SECTOR IN EUROPE: CRUCIAL FOR EFFECTIVE FUNCTIONING OF MARKET	39
3.2	CORE COMPETENCES IN LOGISTICS ENTERPRISES: AN UNDER INVESTIGATED RESEARCH TOPIC THAT IS GAINING MORE INTEREST	41
4.	METHODOLOGY.....	42
4.1	PRINCIPAL RESEARCH METHOD: SINGLE CASE STUDY OF DESCRIPTIVE NATURE WITH QUALITATIVE DATA COLLECTION AND QUANTITATIVE ASSESSMENT	42
4.2	A STRUCTURED PROCESS FOR IDENTIFYING AND ASSESSING CORE COMPETENCES ..	44
4.2.1	<i>Phase 1: Recognition of resources and skills as input for competences</i>	45
4.2.2	<i>Phase 2: Design of competences by integrating resources and skills</i>	49
4.2.3	<i>Phase 3: Identification of core competences by assessing value of competences</i>	53
5.	CONCLUSION.....	57
5.1	CONCLUDING REMARKS AND RECOMMENDATIONS CONCERNING THE IDENTIFICATION ASSESSMENT MODEL AND CASE ORGANISATION	57
5.2	CONTRIBUTIONS TO SCIENCE	61
5.3	LIMITATIONS OF THE RESEARCH	63
5.4	SUGGESTIONS FOR FURTHER RESEARCH.....	64
	REFERENCES.....	67
	APPENDICES	A-I
	APPENDIX I: INTERVIEW PROTOCOL CORE COMPETENCE CASE ORGANISATION	A-I

Index of figures and tables

Figures

- Figure 1: The five forces that shape industry competition
- Figure 2: Trend in published documents on core competences between 1979 and 2017
- Figure 3: Number of published documents on core competences per country
- Figure 4: Visualisation of the core competence concept
- Figure 5: The competences hierarchy
- Figure 6: Resources and competences – relational expansion
- Figure 8: Research phases for identifying core competences
- Figure 9: The steps in data processing
- Figure 10: Transition process from all competences to core competences

Tables

- Table 1: Number of published documents on core competences per year
- Table 2: the VRIN characteristics of resources
- Table 3: Checklist for assessing the value of a (core) competence
- Table 5: Interviewed co-workers of Case Organisation including work function & department/BU
- Table 6: The terms and definitions related to the core competence concept.
- Table 7: Workshop participants including work function & Department/BU

Index of abbreviations

BU	Business Unit
CEO	Chief Executive Officer
CFO	Chief Financial Officer
DEMATEL	Decision Making Trial and Evaluation Laboratory
EMEA	Europe, Middle East, Africa
GDP	Gross Domestic Product
HRM	Human Resource Management
ICT	Information & Communication Technology
JIS	Just-In-Sequence
JIT	Just-In-Time
KAM	Key Account Management
MBV	Market-Based-View
OEM	Original Equipment Manufacturer
QESH	Quality, Environment, Safety, Health
(3/4)- PL	3 rd or 4 th Party Logistics
RBV	Resource-Based-View
R&D	Research & Development
SME's	Small & Medium-sized enterprises
VAL	Value Added Logistics
VRIN	Valuable, Rare, Inimitable, Non-substitutable

1. Introduction: core competences and the growing significance in a modern competitive environment of the logistics sector.

Economic globalization is a trend, which is getting more and more attention from organisations worldwide. Reason for the increased consideration are major effects of the global integration, for instance the emergence of business markets and blurring international boundaries. At the same time, global trade and transactions have been rising substantially and have increased business activities across national borders. The economic globalization has caused that organisations look beyond their own traditional markets and look for new opportunities to expand their activities. Furthermore, the circumstances to participate in international trade have become easier. As a result, there is an increased threat of new entrants in established product and service markets.¹ The existence of this increased rivals, globalization and economic instability creates major challenges for company executives. They need to look for other ways to gain and sustain competitive advantage. This is especially important in the logistics sector where profit margins are low and competition is fierce. Moreover, in logistics it is not only about improving costs, but also about realizing competitive advantage and proposing the best value to clients.² Executives are increasingly urged to follow other game plans to improve operations and outperform rivals. These plans should always be created to promote organizational performance and growth.³ One way is by actively nurturing and enhancing core competences. Organisations that identified and actively use their core competences have a better understanding of the internal capabilities and true proficiencies that are required to provide clients unique value.⁴ It also goes the other way around; a strong orientation on strategic business enhances a firm's core competence and this positively affects firm performance.⁵

This research enlightens the process of how organisations can identify and analyze their core competences by following specific methods and procedures. In addition, it gives advice on how the value can be assessed. The study is of practical relevance for executives,

¹ See Feng & Wenyuan (2013), p. 246.

² See Kasarda (2016), p. 1.

³ See Taylor (2012), p. 5.

⁴ See Taylor (2012), p. 7.

⁵ See Jeong et al. (2015), p. 137.

who can use the procedures as a guideline to determine their own companies' competences. This goes especially for organisations in markets where other plans and strategies are needed to outperform competitors.

In addition, this research addresses a significant gap in theory. Certain studies have successfully explained the exact architecture of core competences, including the aspects from which they are composed. Other scientific publications have defined a structured way on how core competences can be linked to the product portfolio of an organisation. Up till now, studies have failed to combine both of these elements in the concept of core competences. They have been unsuccessful in creating a complete picture. However, as further explained in the course of this research, it is an essential step in the process to be able to distinct between the different aspects of the core competence theory, especially in the design phase. A complete and structured overview is fundamental to identify the true sources of sustained competitive advantage of organisations. So far, existing literature has failed to provide this outline and this created a gap in the core competence theory. However, the issue is addressed in a summary in section 2.2.1 and further addressed in the rest of the literature section, including the methodology of this thesis. In the conclusion is explained how the issue eventually has been solved.

Overall, distinguishing between the core competence - aspects by collecting and outlining clear and concrete definitions is an unrevealed approach for researchers. It is a new tool, which helps to design transparent competences. This is a new working method for core competence research in general, and is therefore a theoretical contribution to science. The complete picture, which is created in section 2.2.6, helps to make a distinction between the core competence – aspects. Furthermore, there is another reason why this study is theoretically relevant. It provides new insights on how the core competences can be identified among a group of competences and how their overall value can be assessed. It applies an identification assessment model, which comes from the dissertation of Holger Schiele. This model is stated in section 2.3.3, where it is explained and discussed critically. It uses a score and rating system, based on VRIN - and core competence characteristics, to detect the true sources of competitive advantage and assess their value.

The approach, which has been applied in this research, is as followed; the study started with an extensive literature review, which explained a wide variety of aspects around core competences; the role of core competences in strategic management (section 2.1.1 and

2.1.2) and its main idea (section 2.2.1). This latter section also proposes the summarised framework with definitions of core competence – aspects, which are discussed in the later sections. These include skills (2.2.2), resources (2.2.3) and (core) - products (2.2.5). These are combined to a complete picture of the concept, explained in section 2.2.6. The remaining sections go deeper into the consideration for core competences (2.2.7), the empirical results (2.2.8) and finally the benefits (2.2.9) and challenges of core competences (2.2.10). Overall, this part of the literature describes the background information on core competences, with the basic thought to get familiar with the topic and especially to distinct the related aspects. This has been crucial during the data processing after the semi-structured interviewing.

In the following sections, literature is discussed on how core competences can be identified. Here it is more about the detection of core competences among a group of competences. It explains the distinction between core competences and regular (emergent) competences (section 2.3.1), other models that have been used to identify core competences (2.3.2) and finally, the identification assessment model, which has been applied during a workshop in this study (2.3.3).

The final sections of the literature review go deeper into the European logistics sector, which is a main driver of the European economy (3.1). This part also includes an introduction of Case Organisation , the case organisation of this research (section 3.3).

The entire theoretical part serves as guidance for the structured methodology, which is discussed in chapter 4. In this chapter, the research steps are clarified and justified. The process is divided into three phases; recognition, design and identification. The research methodology is tested in a single case study at Case Organisation .

Finally, the results of the analysis are presented in chapter 5, and the conclusion chapter is 6. This chapter includes overall conclusions including recommendations in section 6.1, and contributions, limitations and suggestions for further research in sections 6.2, 6.3 and 6.4 respectively.

2. Core competences: a significant concept for the strategic management of organisations

2.1 The changing interest in strategic management perspectives for executives and academics

2.1.1 Schools in strategic management: from market-based-view to resource-based-view and the role of core competences

Having a qualitative strategic management is vital for an organisation. It has to do with leading a company; managers taking initiatives and actions on behalf of shareholders, by using resources, to improve the effectiveness of a company in the markets they are operating.⁶ Over the years there have been different views on how an organisation can execute this in the most effective and efficient way. These views have changed over time and the basic thoughts behind these perspectives vary in different ways. In the end, there are two main opposing views; namely the Market-Based-View and the Resource-Based-View. The MBV has an emphasis on the external setting and scans the environment for opportunities and threats, while the RBV focuses more on internal strengths and weaknesses of organisations. These two perspectives can be compared with the two edges of a swinging pendulum; the emphasis changes back and forth between these two views.⁷ Though the MBV and RBV have opposing ideas that seem conflicting, they can also be used in complementary frameworks.⁸ A well-known and widely used example is the SWOT-analysis.

This section deals with the evolution in strategic management, where subsequently the MBV and the RBV are discussed. Theories that follow these two views are also mostly used in literature reviews. The whole concept of core competences, on the other hand, is a developed version of the RBV.⁹ Likewise Priem and Butler (2001) emphasized that the greatest potential is realized through complementary and integrated use of the RBV together with other resource-oriented perspectives. The core competence approach is one of these derived perspectives.¹⁰

⁶ See Nag et al. (2007), p.

⁷ See Hoskisson et al. (1999), p. 418; Guerras-Martín et al. (2014), p. 71.

⁸ See Peteraf & Bergen (2003), p. 1028.

⁹ See Wang (2014), p. 33.

¹⁰ See Priem & Butler (2001), p. 22.

In the eighties, the MBV was the basic thought for strategic management. Organisations were mainly focused on analysing the external environment for opportunities. They were looking for markets with the most favourable conditions and would establish there. Organisations that successfully positioned themselves in these promising markets, would consequently achieve higher firm performance. This is the basic concept of the MBV; strategies are formed based on industry circumstances and the external environment only.¹¹ This is also called the outside-in approach.¹² Strategies are examined in the context of the complete industry and are compared with those of rivals.¹³ Moreover, the MBV recognizes business activities and planning to follow trends in the sector in which an organisation is active.¹⁴ Still nowadays, organisations are focusing on the external environment; this orientation on the market has a major impact on strategic management and decision-making.¹⁵ In particular for B2B-markets and industries where the potential loss of a client has a big influence on turnover, it is essential to accept the relevance of market orientation; to have a focus on the external environment.¹⁶

When companies following the MBV created strategies, they frequently used the five-forces framework of Porter to assess the external environment and their position relative to competition.¹⁷ Bargaining power of buyers, bargaining power of suppliers, the threat of substitute products and/or services, the threat of new entrants and the intensity of competition are all elements that are assessed with the framework.¹⁸ An overview is shown in figure 1.

¹¹ See Peteraf & Bergen (2003), p. 1033.

¹² See Saeedi (2017), p. 62.

¹³ See Wang (2014), p. 34.

¹⁴ See Gagnon (1999), p. 125.

¹⁵ See Dong et al. (2016), p. 130.

¹⁶ See Liao et al. (2011), p. 301.

¹⁷ See Wang (2014), p. 34.

¹⁸ See Porter (1985), p. 7.

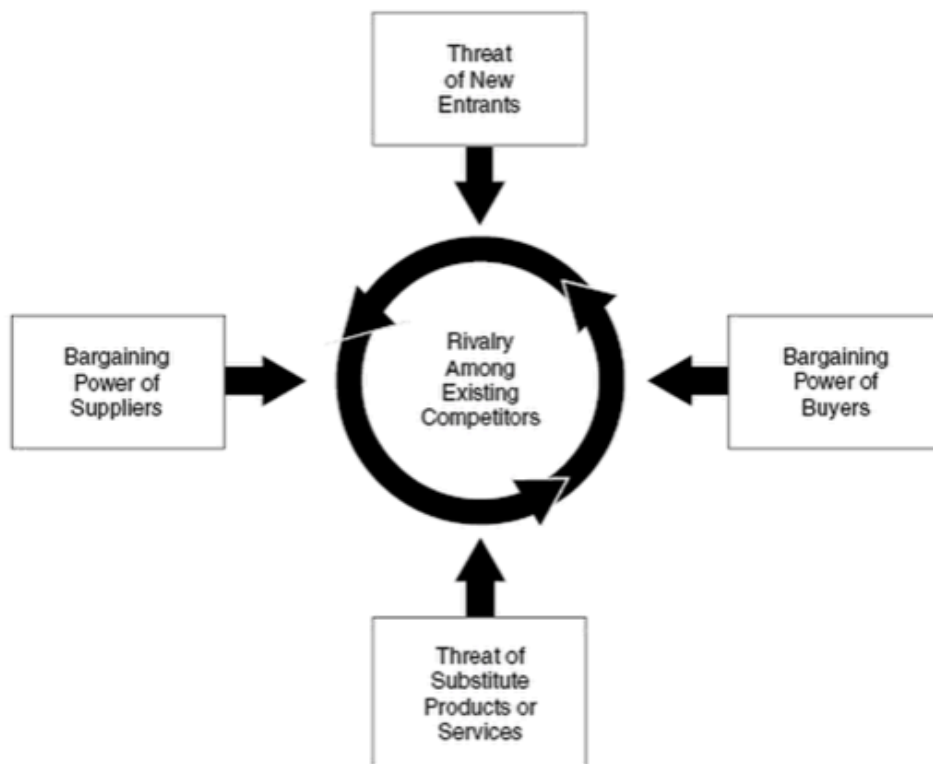


Figure 1: The five forces that shape industry competition

Source: Porter (2008), p. 4.

By interpreting the five forces in the right way, organisations can better understand what the current profitability drivers in their industry are and how these drivers and competitors change in the future.¹⁹ Despite Porter's framework is mainly focused on the situation in the external environment, it can provide useful information for strategic management in their search for competitive advantage.

However, the MBV and Porter's framework also experience criticism. Researchers argue that the determinants of firm performance and the roots of competitive advantage are not only found outside on the market but merely within the organisation itself.²⁰ They think more attention should be paid to the internal capabilities and resources of firms.²¹ This is the RBV; where the focus is more on the in-house strengths. This view is also known as the inside-out approach.²² The shift in studies in strategic management from the outside-in approach (MVB) to the inside-out approach (RVB) has been going on since the 1980s and

¹⁹ See Porter (2008), p. 103; Torro-Jarrin et al. (2016), p. 214.

²⁰ See Barney (1991), p. 100; Saeedi (2017), p. 62; Hult & Sjölund (2017), p. 4.

²¹ See Saeedi (2017), p. 62.

²² See Saeedi (2017), p. 62.

onwards. The focus changed from the external environment and industry, to the internal firm-specific resources and strengths.²³ The RVB will be discussed in the next section.

In the 90's a new thought for strategic management was introduced, namely the RBV. The key of this approach is that an organisation reflects to itself and examines what assets it already has in its possession. RBV is about collecting information about an organisation's internal resources and use this as the starting point for creating new business strategies. The overall objective is to achieve sustained competitive advantage.²⁴ The underlying presumptions on which the RBV of the firm is based includes that resources of organisations are distinctive and that this heterogeneity can endure over time.²⁵ In the end, the RBV strives to clarify the internal sources of a firm's sustained competitive advantage.²⁶ Outperforming rivals over the longer term can only be achieved if these sources possess certain attributes. They need to be valuable for the clients, rare in the market, and hard or impossible to imitate or duplicate by competitors.²⁷ Sources that have these attributes make a great contribution to the value proposition of a firm. The more an organisation possesses these kind of resources, the higher the chance it has distinctive capacities which can help to outperform rivals. The possession of these resources is not the only condition to achieve sustained competitive advantage; it is more about the way an organisation allocates the resources towards its own specific opportunities and threats. This is also critical when strategies are formed; the unique internal capacities are the starting point and not the strategies followed by competitors.²⁸ Therefore awareness of own strengths is a vital aspect.

Prahalad and Hamel build further on the foundations of the RBV by introducing the concept of core competences.²⁹ The main idea of this concept includes that organisations should focus only on a few unique competences rather than all internal or external resources.³⁰ The introduction of core competences made the ideas of the RBV also more accessible and useful for corporate executives. More clear instructions were given of what

²³ See Furrer et al. (2008), p. 16; Wang (2014), p. 35.

²⁴ See Barney (1991), p. 102.

²⁵ See Ambrosini & Bowman (2009), p. 29.

²⁶ See Kraaijenbrink et al. (2010), p. 350.

²⁷ See Barney (1991), p. 105-106; Bromiley & Rau (2016), p. 96.

²⁸ See Knecht (2014), p. 20.

²⁹ See Prahalad & Hamel (1990), p. 79.

³⁰ See Prahalad & Hamel (1990), p. 80.

organisations could do to detect their own unique competences and this helped to gain RBV more popularity.³¹ All in all, the theory of core competences can be regarded as a derived version of the RBV. It can help to better understand the true roots of sustained competitive advantage. The whole concept is discussed in section 2.2 in more detail.

2.1.2 Core competences: a popular topic in literature as from the 90's

As already mentioned before, the dominant perspective in the 80's was the MBV. As from the 90's, the interest of executives and academics shifted more to the RBV, where internal strengths and resources of a firm were seen as possible differentiators for organisations. The derived version of the RBV, where companies possess certain deep proficiencies that help to gain a sustained competitive position on markets, attracted more and more attention in this period as well. The theory on core competences was a main topic of interest for many executives and academics. As a logical result, there was also a huge increase in available publications in the last decade of the twentieth century.

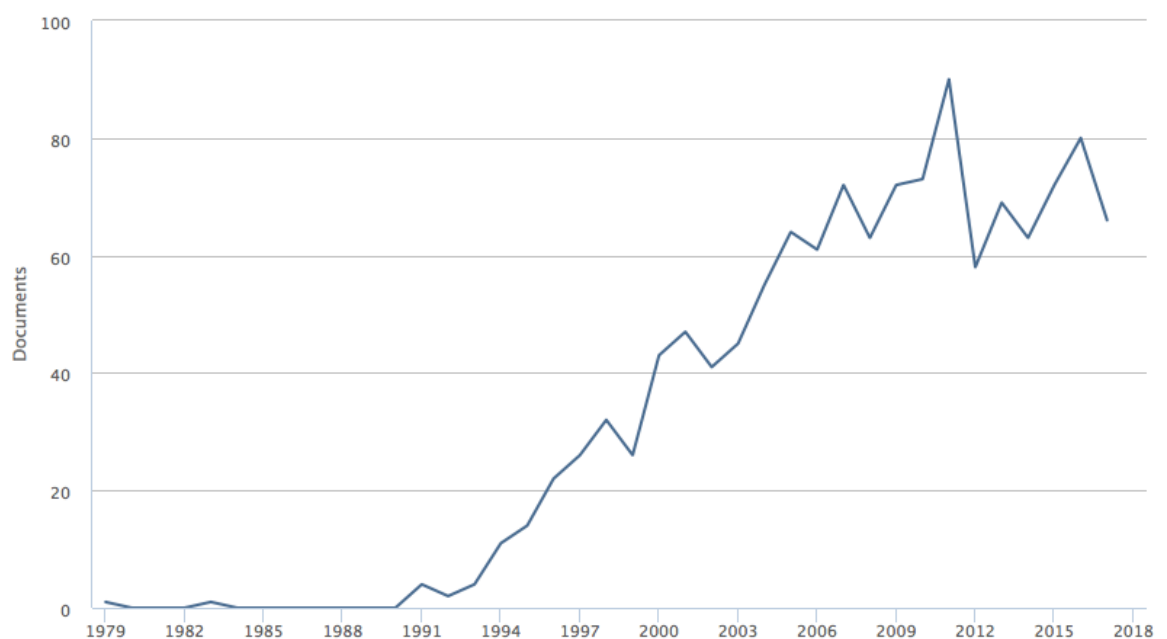


Figure 2: Trend in published documents on core competences between 1979 and 2017

Source: Scopus (2018).

³¹ See Kotler et al. (2010), p. 52.

Year	# of publications	Year	# of publications
2017	66	1997	26
2016	80	1996	22
2015	72	1995	14
2014	63	1994	11
2013	69	1993	4
2012	58	1992	2
2011	90	1991	4
2010	73	1990	0
2009	72	1989	0
2008	63	1988	0
2007	72	1987	0
2006	61	1986	0
2005	64	1985	0
2004	55	1984	0
2003	45	1983	1
2002	41	1982	0
2001	47	1981	0
2000	43	1980	0
1999	26	1979	1
1998	32		

Table 1: Number of published documents on core competences per year

Source: Scopus (2018).

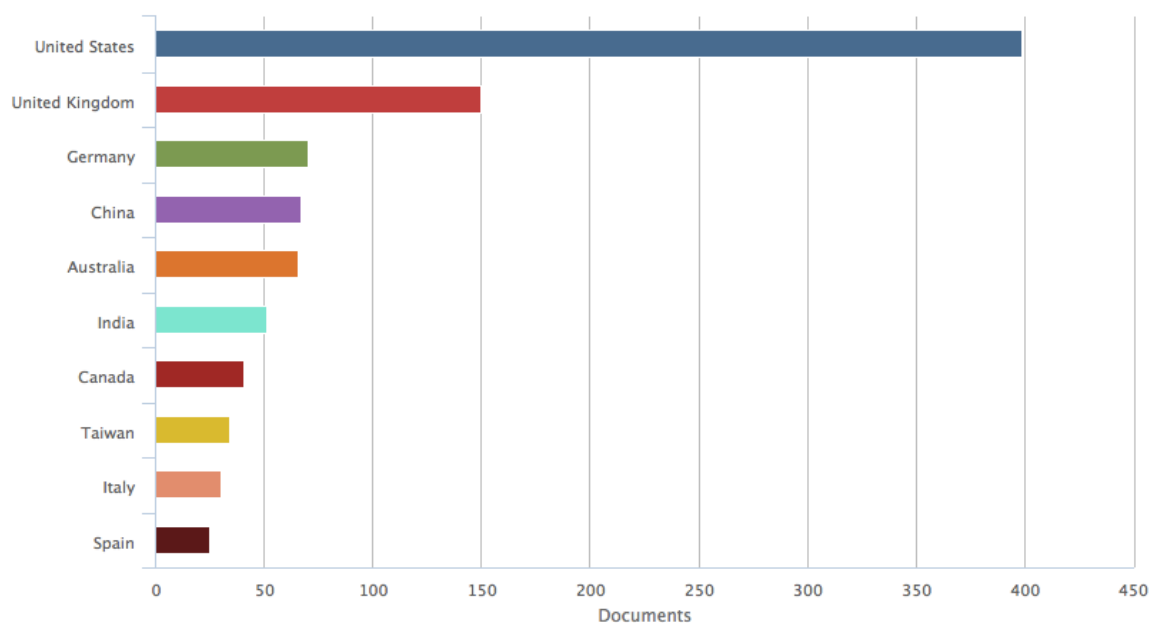


Figure 3: Number of published documents on core competences per country

Source: Scopus (2018).

The increase in published documents on core competences can be seen in Figure 2 and Table 1. The line in Figure 2 and the mentioned amounts in Table 1, indicate that in 1990 and before there was almost no literature on core competences available. In the 90's however, there was a huge rise in publications. The increase continued until 2011; since that moment, the submission of new documents is varying per year. However, as of today the literature on core competences still experiences a considerable annual growth. Each year many researchers and academics publish new papers on the core competence concept. As can be seen in Figure 3, the majority of the documents originate from the United States, far away followed by respectively the United Kingdom, Germany, China and Australia. It should be mentioned that all the data that is stated in Figure 2, 3 and Table 1 has been retrieved from Scopus (2018). The search results were filtered to find only those documents on core competences, which relate to business, management and accounting, since this is the main subject of this thesis. The documents on core competences that relate to other fields such as medicine, biochemistry and psychology, were omitted from the results in the figures and table, as these core competences are different from the ones in this thesis.

Overall, core competences can still be regarded as a relevant topic in science. More and more executives make use of the available information, and apply parts of the theory to benefit their organisations. This shows that the core competence concept is also implemented in practice. But before this can be done, it is evident that there is a complete understanding of the theory and its related aspects. Therefore the next section includes a complete description of the core competence concept.

2.2 An extensive explanation of the concept of core competences

2.2.1 The main idea of a core competence: the integration of skills and resources that provide firms unique potential to outperform competitors.

The concept of core competences has a history of almost three decades; dating back to the 90's. In their groundbreaking paper, "The Core Competence of the Corporation", Prahalad and Hamel were the first researchers that introduced the term. They defined it as the collective learning in the organisation, especially how different skills and technologies are

integrated.³² This integration goes across functional boundaries and therefore requires proper communication, commitment and involvement of all employees.³³ The glue that binds these internal technologies and skills of a firm are together regarded a core competence. For organisations, core competences form the engine of business development.³⁴ They are the distinctive capabilities that allow firms to generate goods or services to clients in an excellent way. A core competence consists of uncustomary habits, practices, knowledge, expertise and behaviours, which are essential in satisfying customer needs.³⁵ In other words, core competences are combinations of integrated skills and resources that give organisations a unique potential to stay ahead of rivals over the longer term.³⁶

Overall, it can be stated that there is a divergent number of definitions on a core competence. It is now clear that a core competence consists of resources and skills. However, there are other related aspects of the concept, which are relevant in this research, such as the difference between a (n) (emergent) competence and a core competence, and the inclusion of the product portfolio (core – and end products) in this research. To make a concrete distinction, the overview below summarises the definitions of these terms. It indicates clear boundaries between the aspects, for instance when something can be regarded as a resource, and not a competence, or the other way around. All of these related elements of the core competence concept are discussed in detail in the following sections of the literature review. The exact section numbers are also stated in the overview.

³² See Prahalad & Hamel (1990), p. 81.

³³ See Prahalad & Hamel (1990), p. 81.

³⁴ See Prahalad & Hamel (1990), p. 81.

³⁵ See Mupepi et al. (2017), p. 187.

³⁶ See Feng & Wenyuan (2013), p. 246.

Term	Section	Definition
Resource	2.2.3 & 2.2.6	<ul style="list-style-type: none"> - A stock, supply of money, materials, staff, and other assets that can be used by a person or organization to function effectively.³⁷ - Resources are either tangible, such as buildings and equipment, or intangible, for instance organisational culture, patents, brand name and reputation.³⁸ - Resources come in three categories; physical capital resources (geographical location, buildings, technologies), human capital resources (employees, management experience, training programs) and organisational capital resources (reputation, company culture, brand name and systems).³⁹
Skill	2.2.2 & 2.2.6	<ul style="list-style-type: none"> - The ability or expertise that a certain co-worker or department possesses, which help to execute assignments with predetermined results within a given amount of time, energy or both.⁴⁰ - Skills, also the expertise of a co-worker or department, are in two types; Soft Skills, which relate to all abilities necessary to maintain relationships (i.e. social interaction, communicative and language skills, teamwork).⁴¹ And Hard Skills, these abilities relate to the execution of particular tasks (i.e. technical expertise, production abilities, operating skills).⁴²
Competence	2.3.1	A combination of several integrated skills and resources. Something that a department or BU does successfully or efficiently.
Emergent competence	2.3.1	<ul style="list-style-type: none"> - A combination of two or more competences, this is not always applicable. - Emergent competences are applicable if two or more organisational strengths can be linked to each other and make it a more complete unity. - Emergent-competence perspective has been found essential for management research on the core competence theory.⁴³
Core competence	2.2.1 & 2.2.4 & 2.2.6 & 2.3.3	- A(n) (emergent) competence that gives organizations the unique potential to stay ahead of rivals over the longer term; Therefore they should be: valuable for the client, rare in the market, in-imitable and non-substitutable by competitors. ⁴⁴

³⁷ See Oxford University Press (2010), p. 1302.

³⁸ See Javidan (1998), p. 62; Berry (2004), p. 2.

³⁹ See Barney (1991), p. 101-102; Javidan (1998), p. 62.

⁴⁰ See Howland (2013), p. 9.

⁴¹ See Cimatti (2016), p. 97.

⁴² See Cimatti (2016), p. 98.

⁴³ See von Krogh & Roos (1995), p. 56.

⁴⁴ See Barney (1991), p. 106-107.

		<ul style="list-style-type: none"> - A core competence is composed of integrated resources and skills, but it is unlike a competence, harmonized and aligned across different functions.⁴⁵ - A core competence exists through the cross-business interactions across a multi-business firm.⁴⁶ - A core competence can be outlined as a harmonized combination of resources and skills that gives an organisation a distinctive position in the competitive environment in which it is operating.⁴⁷ - A core competence is an underlying quality of the organisation, and not a specific product or product line.
Core product	2.2.5 & 2.2.6	<ul style="list-style-type: none"> - A core product is an element which contributes to the value of end products; it is the link between the core competence and the end products⁴⁸ - Core products can be described as the physical embodiments of an organisation's core competences.⁴⁹ - Core Products are characterised by a higher output and better quality than that of competitors.⁵⁰
End product(s)	2.2.5 & 2.2.6	<ul style="list-style-type: none"> - End product(s) for each business unit; are being strengthened by core products - End product(s) are the leaves and fruits (total product portfolio) that an organisation can offer the market; the core product is usually embedded in these.

Finally, identifying core competences is a vital aspect to firms who want to strategically increase their sustainable competitive advantage.⁵¹ However, this is easier said than done. It can be a complicated process to detect a company's true sources of competitive advantage. Many organisations consist of different BU's that each has its own client basis. Usually there is something that is convincing clients to buy goods and/or services from a specific company rather than from other competitors. This can be for instance, extra service, a punctual delivery time or maybe continuous product innovation. It is a big challenge for management to determine what the exact factors are, which underlie these competitive differentiators. The theory of core competences can help executives to clearly understand and define what in particular distinct the organisation from rivals. Accepting the main idea as introduced by Prahalad and Hamel (1990) is evident in the process of discovering a company's uniqueness. As already indicated, core competences possess

⁴⁵ See Schilling (2013), p. 117.

⁴⁶ See Bhamra et al. (2010), p. 4.

⁴⁷ See Schilling (2013), p. 117.

⁴⁸ See Prahalad & Hamel (1990), p. 85.

⁴⁹ See Prahalad & Hamel (1990), p. 85.

⁵⁰ See Eckel et al. (2015), p. 216.

⁵¹ See Anwar et al. (2015), p. 227.

certain characteristics and are formed by the integration of separate skills and resources. Understanding the value of these combinations is the main point for the determination of the core competences. As skills and resources are the building blocks of core competences and it is evident to recognise them within an organisation, it is a crucial step to find out what these two terms actually intend. Therefore the next subsections deal with subsequently skills and resources.

2.2.2 Skills: the abilities of human capital to perform a task successfully

Skills are the abilities that a certain co-worker or department possesses, which help to execute their assignments with predetermined results within a given amount of time, energy or both.⁵² Proper skills are essential for the operations of companies. They are a key factor for organisational success, irrespective the industry sector. Therefore it is important that management keeps investing in its co-workers to maintain knowledge and increase work experience. The quality of human capital is often regarded as the leading element of profitable innovation; for that reason companies should encourage self-development to enhance skills of employees so that the potential to innovate successfully increases.⁵³ In addition, Heckman and Corbin (2016) explain that enhanced skills have a positive effect on the amount of business opportunities and consequently improve the capabilities of an organisation.⁵⁴ These organisational capabilities are known as the competences and the skills of employees are only a part of these.

Skills, also known as the expertise of a co-worker or department, can be divided in two types. On the one hand there are Soft Skills, which relate to all abilities of a person or department that are necessary to maintain relationships. Examples are for instance, social interaction, communicative and language skills, and the ability to work in a team.⁵⁵ These non-technical skills contain human aspects and boost team collaboration and awareness.⁵⁶ On the other hand there are Hard Skills, these abilities relate to the execution of a particular task or activity. This type of abilities is directly connected to the actual job, for instance technical expertise, production abilities, or operating skills of a specific

⁵² See Howland (2013), p. 9.

⁵³ See Leiponen (2005), p. 303.

⁵⁴ See Heckman & Corbin (2016), p. 342.

⁵⁵ See Cimatti (2016), p. 97.

⁵⁶ See Gordon et al. (2014), p. 572.

machine.⁵⁷ In general, Soft Skills are considered complementary to Hard Skills.⁵⁸ However, an employee or department needs both types to function successfully. Not only the type is important, but also the level of the skills. The abilities of the staff are usually obtained and enhanced in different ways. College education for instance is a significant method to increase skills. Working together during school projects help to develop the soft skills of a person. The social interaction helps students in their later career to communicate better with colleagues. Another way to increase the skills of employees is through training programs. Training programs are followed to enhance both types of abilities. In particular to increase Hard Skills, trainings are an appropriate option. The main advantage is that employees can be trained to perform a specific job or activity in a certain area. Finally, just by executing specific tasks abilities are increased; gaining work-related experience is one of the most important methods to acquire skills.

Overall, the co-workers possess different skills that all contribute to the success of a company. These abilities of the human capital are major determinants of the organisational achievements. Therefore they can have a significant contribution to the formation of competences. Besides skills of co-workers, resources are also essential building blocks. This term is discussed in the next section.

2.2.3 Resources: assets with varying characteristics that can be used to create value

A resource can be described as a supply of something that a country, an organisation or a certain person possesses and can use, especially to increase their wealth.⁵⁹ A resource is often an asset, for instance financial supply, materials or staff, which can be used for advantageous reasons. Not every resource is the same; they can be categorized into three different types, namely physical capital resources, human capital resources and organisational capital resources. Physical capital resources include geographical location, buildings, technologies, access to raw materials and other assets. Human capital resources are for instance the employees, management experience, and training programs. Finally organisational capital resources include assets such as reputation, company culture, brand name and controlling and coordinating systems.⁶⁰ Another distinction can be made between tangible -, such as buildings and equipment, and intangible resources, for instance

⁵⁷ See Cimatti (2016), p. 98.

⁵⁸ See Cimatti (2016), p. 97.

⁵⁹ See Oxford University Press (2010), p. 1302.

⁶⁰ See Barney (1991), p. 101-102; Javidan (1998), p. 62.

organisational culture, patents, brand name and reputation.⁶¹ Companies are combining resources to create a synergising effect and increase profit even more. In the past, this occurred only to resources within organisational boundaries. Currently, more and more resources are combined outside the firm. Mergers, acquisitions and strategic alliances facilitate inter-organisational resource sharing.⁶² In their study on the effects of innovative resources on the performance of Taiwanese organisations, Liao et al. (2015) explain that if companies pursue strategies that integrate external resources, this positively affects sales performance.⁶³ Firms are increasingly looking for external partners to get access to new and better resources; the focus is not solely on the assets of the internal organisation anymore. In addition, there is a tendency that companies are increasingly focusing solely on their core business. This means that non-core activities are either abandoned or outsourced to companies that are specialised in performing these non-core tasks. Logistics and IT for instance, are two areas in which many organisations choose for an external partner. Product innovation is also a significant area in which outside parties collaborate with organisations. Overall, the external resources provided by these partners can be equally important for the formation of competences as the internal assets.

Obviously not all of these resources, either internal or external, are strategically relevant. Some assets have no impact on the implementation of business processes whatsoever. However other resources can contribute to the efficiency and effectiveness of an organization; these have the potential to be a source of sustained competitive advantage.⁶⁴ Only those resources form the foundation of core competences.

This is the topic of discussion in the next section.

2.2.4 Core competences: combinations of integrated resources and skills that can be an organisation's source of sustained competitive advantage

A complete summarising definition of the main term is as follows; a core competence can be outlined as a harmonized combination of resources and skills that gives an organisation a distinctive position in the competitive environment in which it is operating.⁶⁵ It is an underlying quality of the organisation, and not a specific product or product line. It is a

⁶¹ See Javidan (1998), p. 62; Berry (2004), p. 2.

⁶² See Kim & Jin (2017), p. 524.

⁶³ See Liao et al. (2015), p. 215.

⁶⁴ See Barney (1991), p. 102.

⁶⁵ See Schilling (2013), p. 117.

comprehensive proficiency where not only the separate assets and abilities are important, but also the link between them.⁶⁶ The resources and skills are the building blocks that form the basis of the core competence. To illustrate: the higher the number of unique assets and abilities, the larger the foundation. And the better the mutual link between the resources and skills, the stronger the foundation. Larger and stronger foundations are more complicated to construct and this determines the distinctiveness and value of a core competence. Normally companies do not possess dozens of core competences. Usually there are only a few proficiencies that make an organisation unique. Making the company unique in its environment is an important prerequisite for a core competence. The amount also depends on the type of industry. In industry sectors that are characterised by heterogenic products and services, it is much easier to gain a core competence than in sectors defined as homogenised, where it is more about the relative advantage over competitors.

Additionally, a core competence is also recognised because it has dynamic content. With this is meant that it has the capacity to change in line with the situation in the environment. It can increase its dynamics by stabilising with the external environment, by decreasing its dependency on specific resources and skills, and finally by guiding resources instead of controlling them.⁶⁷ Organisations also need to adapt rapidly to shifting circumstances in the external environment and therefore they must have dynamic capabilities to influence the core competences.⁶⁸ Especially nowadays, where the marketplace is dynamic and organisations are becoming increasingly complex, it is a great challenge for managers to master this complexity and to look for new strategies to outperform rivals.⁶⁹ A better understanding of the core competences can help to overcome this challenge. Moreover, executives can use a company's core competences as a guideline to form new strategies, which fit the situation in the marketplace best. It helps to determine what exactly is making the organisation different from its competitors. In order to maintain this uniqueness, core competences need to be nourished and protected on a continuous basis.⁷⁰ Organisations have to invest in more and better resources and skills to keep a core competence vital. Only by doing this it can remain its status as a source of sustained competitive advantage.

⁶⁶ See Zhu Ge (2009), p. 128.

⁶⁷ See Ljungquist (2013), p. 453.

⁶⁸ See Zhu Ge (2009), p. 128.

⁶⁹ See Ashkenas et al. (2014), p. 29.

⁷⁰ See Prahalad & Hamel (1990), p. 81.

Therefore it is so important that a core competence is subject to change. It should be capable to absorb other assets and abilities to develop to a higher level. Because a core competence is characterised for its dynamic capacity, it is not at any time defined as a single product type or service. The reason for this is that these terms are not subject to change. However, core competences can be linked to an organisation's end products – and services in another way. This is the topic of discussion in the next section.

2.2.5 Core Products: the physical link between an organisation's core competences and product portfolio

Core products can be described as the physical embodiments of an organisation's core competences.⁷¹ They literally reflect the core competences.⁷² The core products of an enterprise are the tangible connection between the core competences and the different end products. Core products originate from core competences and strengthen the end products by adding value. There are numerous relations between these three terms.⁷³ Therefore it is crucial for organisations to distinguish between them, as rivals act differently on each level.⁷⁴ This is especially important for firms that have a large product portfolio. Products that are directly derived from a company's core competences usually have a higher output and quality.⁷⁵ Demand for these core products is higher because this is exactly what makes the organisation unique from its competitors. Moreover they are incorporated in multiple end products. Clients usually purchase from a certain company because a specific core element is integrated in the final products and/or services. This core element is often related to the actual need that the end products are fulfilling. As it is evident that a company keeps satisfying its customers' needs and the core products play such a vital role in this, firms are often motivated to increase the quality level of their product portfolio. Continuous innovation of especially the core products is something that many organisations aspire, because of the diversified customer needs nowadays. As a result companies aim more and more at product development as a core competence.⁷⁶ By building and using diverse technologies, firms try to create more complex goods and

⁷¹ See Prahalad & Hamel (1990), p. 85.

⁷² See Zhang et al. (2016), p. 304.

⁷³ See Danilovic & Leisner (2007), p. 49.

⁷⁴ See Prahalad & Hamel (1990), p. 85.

⁷⁵ See Eckel et al. (2015), p. 216.

⁷⁶ See Sato (2009), p. 1958; Holahan et al. (2014), p. 329.

systems so they can improve their position on the market for core products.⁷⁷ This implies that organisations increasingly attempt to acquire better resources and skills, so they can nurture their core competences, resulting in more and qualitative core products. Better and more complicated core products can lead to a stronger market position compared to rivals. Overall, it can be stated that core products play a valuable role for organisations and their competitive advantage. They arise from the core competences and promote the portfolio with end products. And as already mentioned before, it is not only critical to make a distinction between core – and end products on the one hand, but also resources and skills on the other hand. There are significant differences between these terms. The next section provides a summarizing overview of the used descriptions of the core competence concept.

2.2.6 The core competence concept: similar to the anatomy of a tree

The theory of core competences can be regarded as a complicated concept to understand, since it consists of different aspects and it can be looked at from different angles. Besides there are resources and skills that form core competences, there also exist core – and end products that arise from the core competences. In order to master the complexity of two opposing views and to get a complete picture, it is a wise idea to visualise the concept. As a matter of fact, the whole theory of core competences can be compared to the physical structure of a tree. Prahalad & Hamel (1990) were the first researchers that mentioned this resemblance.⁷⁸ Figure 4 shows all terms that are used in the previous sections. It is based on “*competencies: the roots of competitiveness*” and it summarizes the core competence concept.⁷⁹

⁷⁷ See Kim et al. (2016), p. 114-115.

⁷⁸ See Prahalad & Hamel (1990), p. 81.

⁷⁹ See Prahalad & Hamel (1990), p. 82.

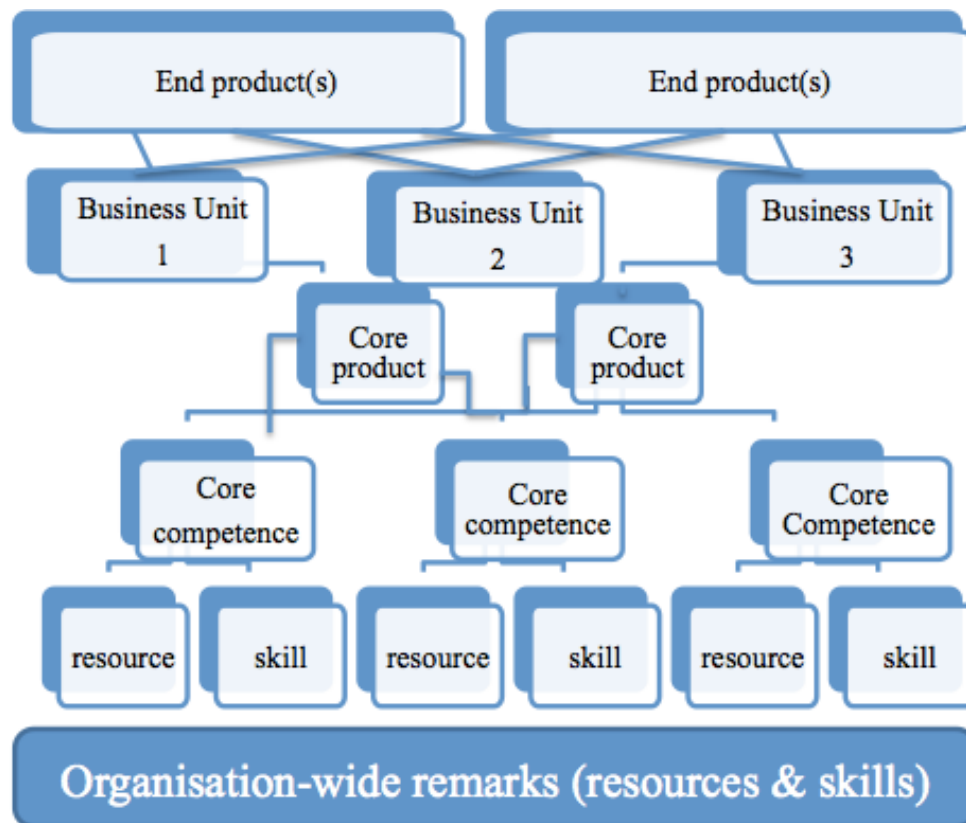


Figure 4: Visualisation of the core competence concept

Source: Based on Prahalad & Hamel (1990), p. 82.

Organisation-wide resources and skills are embedded throughout the whole firm. These can be resources such as an informal company culture or the access to financial resources. An organisation-wide skill is for instance the solution-optimising capabilities of staff. These form the fertile ground in which the tree grows. The specific resources and skills form the smaller tree roots, which in combination form the core competences. At the level above, the core competences are found. These are the thicker roots that provide nourishment and stability for the whole tree. The core products originate from the thick roots. These shape the trunk of the tree; the core products are the connection between the core competences and the end products of the different business units. These BU's are the branches that carry numerous end products. Finally, the end products are the leaves and fruits that an organisation can offer the market; the core product is usually embedded in this. Most times firms fail to see the strength of rivals by focusing exclusively on their end

products, in a similar way firms fail to see the strength of a tree by focusing exclusively on its leaves and fruits.⁸⁰

This overview is relevant for this research, as it helps to better understand the concept and to distinguish between the different terms around core competences. This is essential for the recognition phase, as is explained in the methodology section. The parts that really determine its robustness and stability are the system of roots and tree trunk; for the organisation these are the core competences and linked core products. The thickness and strength of the root system is directly related to the degree of particular core competences to be a source of sustained competitive advantage. However, this is not always the case. Management continuously needs to make considerations with regard to the core competences, which the organisation possesses. This is the subject of the next section.

2.2.7 Consideration for core competences: nurturing existing tree and where to sow new seeds

Core competences play an important role in managing organisations successfully. Therefore it is crucial to really understand the concept and to deal with any misconceptions. There is one wrong impression that dominates the minds of some CEO's. They think that the possession of a core competence is an old-fashioned business principle.⁸¹ These executives see the concept as an integrated set of resources and skills that is needed to outperform rivals in only one specific market. In order to survive in today's competitive environment, companies should adapt and enter other markets where new business opportunities arise. Therefore they need to change and/or increase their product portfolio by acquisitions, partnerships or higher R&D expenses. These firms should not focus only on their core competence, core products and current end products, but more on developing new end products that are required to pursue more and other business opportunities.⁸² Executives think that focusing on core competences limits the number of opportunities that can be chased. However, there is also an opposing point of view. A core competence is not about spending more on R&D than competition.⁸³ In contrast to the visible battle for an increased share in product markets, the battle to create

⁸⁰ See Prahalad & Hamel (1990), p. 81.

⁸¹ See Carr (2013), p. 1.

⁸² See Carr (2013), p. 1.

⁸³ See Kwapong (2005), p. 87.

excellent core competences takes place out of sight.⁸⁴ Yet, this does not mean it is a less important battle, as improving a firm's core competences contributes to the creation of competitive advantage and better performance.⁸⁵ Therefore core competences have dynamic capacity so that they can be applied into multiple markets and more business opportunities can be pursued.⁸⁶ Looking at a firm's current core competences, it is positive to stick to the values that already create competitive advantage and base new core – and end products on those values; just like a tree with leaves grows from its system of roots. Nevertheless, it is also correct that organisations can be somewhat restrained to enter new markets if they only follow their current core competences. For instance, if Nike had stuck to its core competence 'shoe design', it would never have started its own platform Nike+ in the early stage of digitalisation.⁸⁷ Overall, the best situation is when CEO's choose the middle way and do both; leverage the opportunities that current core competences provide and look what new core competences should be created in the future after scanning the market for new business developments.⁸⁸ Comparing this with the concept visualisation of the tree; executives nurture their existing tree and consider where to plant new seeds so that new trees can grow. By doing this, management is taking into account their current strengths, but is also not forgetting the market and other circumstances. When a new opportunity arises, CEO's first consider whether to chase it or not. If they choose to do so, they look whether current core competences can be adapted to this opportunity. If this is possible the CEO's examine which current or new resources and skills are necessary and attract these. If not, the CEO's consider what new core competence and related assets and abilities must be created. All in all, there is a continuous urge for management to make well-considered strategic choices with regard to core competences and market opportunities.

This consideration is relevant for this research as it emphasises that organisations should not focus exclusively on the identification of the current core competences, but also look at future trends and how the current strengths can be linked to these trends or what new competences should be created.

⁸⁴ See Prahalad & Hamel (1990), p. 83.

⁸⁵ See Agha et al. (2012), p. 198.

⁸⁶ See Zhu Ge (2009), p. 128.

⁸⁷ See Carr (2013), p.1.

⁸⁸ See Habtay & Holmén (2014), p. 294.

2.2.8 Empirical results on core competences: provision of valuable information

Many researchers have gathered data on core competences without using a theoretical background, but purely by basing conclusions on the analysis of their experiment. Yang (2013) designed a framework of an operations system for core capabilities and a long-term development model for organisations. This framework and map helped to explore the causality between core competences, core capability, performance and corporate growth. The analytical results confirmed that core competences and capabilities drive competitive position, which strengthens continuous development and thrives business. Moreover it was also found that ‘skilful management’ and ‘open organisational culture’ were the most fundamental resources for implementing core competences and capabilities.⁸⁹ This provides a stronger foundation to the existence of organisation-wide resources and skills. Chen and Wu (2007) performed an empirical analysis to find out whether there was a difference in core competences between high-tech organisations and classic corporations.⁹⁰ They collected data by doing surveys among different types of firms to find out more about the core competences and related subjects such as innovation, quality management and strategic planning. The data were assessed by doing a path analysis and the outcome indicated that there is indeed a significant difference in core competences between high-tech organisations and classic corporations.⁹¹ From survey data collected from Southeast-Asian automotive suppliers, Hsu et al. (2014) found that the degree of entrepreneurship within an organisation affects the core competences, which in turn changes the level of innovation.⁹² This is in line with the trend that an increasing number of firms aim at product innovation as core competence.⁹³ These companies want to strengthen their core products and increase their portfolio of end products so that they can improve the competitive position on the markets in which they are operating. Innovation of products is evident to achieve this position. Hsu et al. (2014) collected the data through a survey among automotive OEM suppliers in five Asian countries. They developed a specific model in which the data was processed through structural equation modelling.⁹⁴ Another example includes testing empirical data from China. Sun et al. (2017) discovered a relation

⁸⁹ See Yang (2015), p. 173.

⁹⁰ See Chen & Wu (2007), p. 159.

⁹¹ See Chen & Wu (2007), p. 159.

⁹² See Hsu et al. (2014), p. 5467.

⁹³ See Sato (2009), p. 1958; Holahan et al. (2014), p. 329.

⁹⁴ See Hsu et al. (2014), p. 5472.

between information interaction capabilities and sustained competitive advantage.⁹⁵ They used a combination of a literature review, pre-test and a questionnaire to collect their research data. This data was further processed in a confirmatory factor analysis and other types of validity analyses.⁹⁶ They found that these capabilities are going to be a crucial type of skill in the future for constructing new core competences and for outperforming rivals.⁹⁷ Another essential skill that a firm needs to possess for creating core competences is the absorptive ability to manage resources. Organisations that control their resources and are capable of assigning them in the right way have a higher chance of effectively forming core competences.⁹⁸ This ability is also vital for the success and learning of companies.⁹⁹ In another empirical study Espino-Rodríguez and Rodríguez-Díaz (2014) created a method to detect the value-creating activities of Spanish firms.¹⁰⁰ They found that internal and relational activities generate the most value to end customers. Some activities could be regarded as core competence, while others are non-core. This distinction was made by executing a cluster analysis so that all activities could be classified as either core or non-core. The following multiple regression indicated the differences in the mean scores between the two categories.¹⁰¹ The result of the study also indicated that core competence activities create more customer value, but that non-core activities play an evenly significant role. The higher the value an organisation can offer its clients, the higher the chance it can differentiate itself from its rivals. This has a positive influence on the competitive position of the firm.

Overall, empirical studies have shown some significant relations between core competences and related aspects. Results have indicated essential skills and resources for the formation of core competences, as well as positive relations between the concept and business performance. However, up till now, studies have failed to provide a structured process to identify the current core competences of organisations. Though Pearson et al. (2015) executed an empirical study to identify the sources of competitive advantage among 49 Asian airlines; they only focused on intangible resources and not on the core

⁹⁵ See Sun et al. (2017), p. 701.

⁹⁶ See Sun et al. (2017), p. 707-711.

⁹⁷ See Sun et al. (2017), p. 701.

⁹⁸ See Arifin et al. (2016), p. 237.

⁹⁹ See Yao & Chang (2017), p. 2041.

¹⁰⁰ See Espino-Rodríguez & Rodríguez-Díaz (2014), p. 2.

¹⁰¹ See Espino-Rodríguez & Rodríguez-Díaz (2014), p. 14.

competences.¹⁰² Therefore this research is relevant; as it goes deeper into an under-researched topic, namely the identification and assessment of core competences. However, the study of Peardon et al. (2015) is further discussed in section 2.3.3, as it applies a likewise scoring system as in this research.

All in all, following the core competence ideology has advantages, but also challenges and a disadvantage (which already indicated in section 2.2.7). Benefits and challenges of core competences are further enlightened in the next sections (2.2.9 and 2.2.10 respectively).

2.2.9 Benefits of core competence concept: the powerhouse of organisational competitiveness but includes boundaries

Understanding the core competences of the organisation can be beneficial for executives. The concept is a useful management tool for strategic choices such as partnerships, diversification rationalising and downsizing.¹⁰³ Core competences are also used by management as where to allocate resources and skills. Some internal strengths need more nourishment than others when looking at the changing external environment and potential opportunities. Core competences provide management with a valuable reference point. Furthermore, core competences are crucial for the formulation of an organisation's strategic vision.¹⁰⁴ If these internal strengths are known, formulating the future direction will be much more easy. Sometimes the core competences are even embedded to some degree in the mission statement of the company. In this way, the core competences help executives to effectively communicate the organisation's priorities to internal and external stakeholders. Consequently, the co-workers across all departments have a better idea of the organisational strengths and will use this as a reference point in their work. This helps to create a universal understanding throughout the company. In addition, core competences help to define and solve organisational issues so that idiosyncratic growth energy can be created, as well as competitive advantage and market power.¹⁰⁵ They allow firms to outperform rivals and provide access to new markets and products.¹⁰⁶ The integrated resources and skills are catalysts to produce assets and benefits to fight competition. Overall, core competences can be regarded as critical success factors for a firm's product –

¹⁰² See Pearson et al. (2015), p. 179.

¹⁰³ See Tampoe (1994), p. 69; Torkkeli & Tuominen (2002), p. 275.

¹⁰⁴ See Torkkeli & Tuominen (2002), p. 275.

¹⁰⁵ See Lin et al. (2011), p. 6263.

¹⁰⁶ See Javidan (1998), p. 61; Torkkeli & Tuominen (2002), p. 275; Lin et al. (2011), p. 6263.

and service portfolio.¹⁰⁷ They are a reference point for management as to what directions to think for new products – and services. The internal strengths are often the source of information in new innovation ideas. Moreover core competences have major benefits for all sorts of organisations, not only production manufacturers. An example is the case study of Li and Yip (2016) on the core competences of river ports.¹⁰⁸ They found that the concept is advantageous for terminal operators as well. Especially when these operators pay attention at core strategies, core business and the evolution of core products and – services when resources are limited. The results of this study further revealed that river ports reach sustained competitive advantage if they successfully apply the core competence concept.¹⁰⁹ This is important for all organisations, as it uncovers what the true internal strengths and differentiating activities are. It provides guidance for executives who have difficulties in properly positioning their companies relative to competition.

It is important to realise the boundaries of the concept; it is just a tool that management can use to describe the internal strengths in a more accessible way. Applying the core competence theory can be beneficial, but it is not a guarantee for success. It cannot clarify all what is happening in the environment, because it focuses largely on the internal organisation. In closing, core competences can be very helpful for management and can be regarded as the powerhouse of organisational competitiveness.¹¹⁰ Despite the fact there are much benefits, the concept cannot clarify everything and there do exist a few challenges before the concept can be applied in a successful way. These are discussed in the next section.

2.2.10 Challenges in applying core competence concept: creating alignment within the organisation by defining the concept terms and concerted formulations

The concept of core competences is a favourite instrument for managers when making strategies. It is the most applied tool in the EMEA region and the sixth in the world.¹¹¹ Nevertheless, there are also a few challenges related to this concept of integrated skills and resources. In the first place it is important that companies, who want to identify their core

¹⁰⁷ See Lin et al. (2011), p. 6263.

¹⁰⁸ See Li & Yip (2016), p. 99.

¹⁰⁹ See Li & Yip (2016), p. 99.

¹¹⁰ See Zhu & Cheung (2017), p. 1.

¹¹¹ See Rigby & Bilodeau (2013), p. 9.

competences, deal with the ambiguity within the organisation.¹¹² Different co-workers have different perspectives about the concept and there will be multiple opinions about what exactly makes the firm unique from its competitors. This can also depend on the department. For instance, R&D can be convinced that product innovation is the most important core competence, while the Marketing Department believes that excellent brand communication is the one and only true internal strength of the organisation. Another challenge is that many employees find it challenging to differentiate between their list of potential core competences and the ones that rivals might draft.¹¹³ As an example there is the case study of Nicolai and Dauwitz (2010), in which the concept is applied in a German organisation. 44 interviews were conducted, in which 112 possible core competences were mentioned, the most of them only once and by a single interviewee. An astonishing result was that 86 of them gave no implication of the industry in which the German company was operating.¹¹⁴ In the end, the co-workers found it hard to name the true internal strengths and sources of competitive advantage of the organisation. This indicates that people also use in practice varying definitions. Managers have different perspectives on how a core competence and its related terms such as core products, skills and resources actually insinuate and how they should be described. In addition, it happens often that terms are mixed up by confused co-workers. They are for example convinced that something is a core competence while in fact it is only a resource. In his study on the core competences in the United States army, Dunning (2013) also pointed out the difficulties that US military have in identifying their true internal strengths. He concluded that there is a need for consistent definitions on the concept.¹¹⁵ Moreover, management also has problems in determining what the 'core' in core competence really suggests.¹¹⁶ What is the exact signification of the word 'core' and when can a competence be reckoned as core strength? These are all issues that management need to deliberate when dealing with core competences. Overall, it is a major challenge to create a concerted view within the organisation but it is a crucial step before the true internal strengths can be identified. After the core competences are indeed detected, it is also a challenge to look if wordings should be reformulated in such a way that every stakeholder understands what is implied with the

¹¹² See Nicolai & Dautwiz (2010), p. 874.

¹¹³ See Schaupp & Virkkunen (2017), p. 102.

¹¹⁴ See Nicolai & Dautwiz (2010), p. 882-886; Schaupp & Virkkunen (2017), p. 102-103.

¹¹⁵ See Dunning (2013), p. 52.

¹¹⁶ See Schaupp & Virkkunen (2017), p. 104.

description.¹¹⁷ It is common that a core competence can be completely understandable for internal stakeholders, but that the wordings are incomprehensible for external parties. Similarly, it can differ between only internal – or external stakeholders. For instance, suppliers and clients are both located outside the firm. It is possible that a core competence is completely obvious for one party, but the other party has no clue about the intention of the wordings. Therefore it is crucial for management to find the middle way, where the message is clear for all stakeholders, even if the terms need to be adapted to a specific party. This can be a challenging process, as many managers and other stakeholders are involved it can be hard to reach a consensus.

2.3 Overall assessment of core competences; including identification, other research models and identification assessment model for this study

2.3.1 Initial steps in identification process: creating an universal understanding of the concept and selecting the participants

The last section dealt with all aspects concerning the concept itself. In this section the emphasis is more on the assessment of the core competences, and how these can be identified within the organisation. In section 2.3.3 is discussed what the indicators and characteristics of core competences are.

The first step in the identification process is to deal with a major challenge; creating a universal understanding of all concept terms.¹¹⁸ All co-workers need to realise the distinction between a resource, skill, competence and core competence. The terms can be placed in a hierarchy based on Javidan (1998).

¹¹⁷ See Schaupp & Virkkunen (2017), p. 104.

¹¹⁸ See Javidan (1998), p. 62.

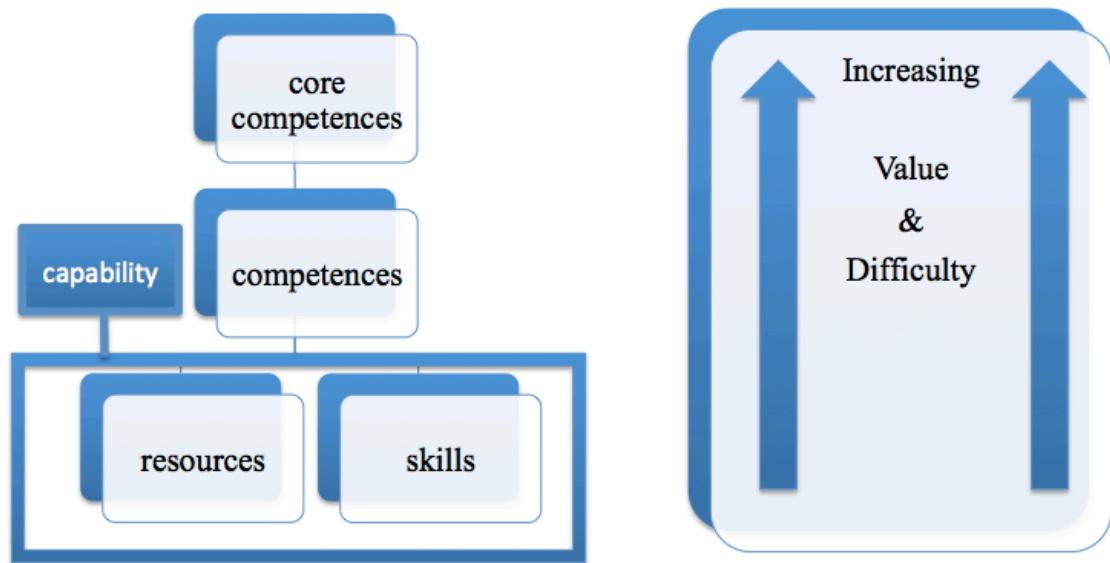


Figure 5: The competences hierarchy

Source: Based on Javidan (1998), p. 62.

As can be seen in Figure 5, resources and skills are found in the lowest part of the hierarchy. Together they form the foundation of core competences.

Capabilities are also mentioned in the figure. These are a series of business processes and routines that control the interaction among the resources and skills.¹¹⁹ Moreover forming competences is not only about the separate assets and abilities, but also the link between them.¹²⁰ This interactive link is the capability that relates to the overall capacity of organisations to take advantage of resources and skills. Capabilities are also considered a part of resources and skills.¹²¹ Separate assets and abilities are functionally based, which means that they belong to a certain person or department of the organisation, for instance marketing or production. Competences form the next level in the hierarchy. A competence is the outcome of combined resources and skills of a single department. Finally, core competences shape the top of the hierarchy. A core competence is also composed of integrated resources and skills, but it is unlike a competence, harmonized and aligned across different functions.¹²² In addition, it goes flexibly across organisational boundaries and is an elemental aspect of corporate knowledge sharing.¹²³ A core competence exists

¹¹⁹ See Javidan (1998), p. 62.

¹²⁰ See Zhu Ge (2009), p. 128.

¹²¹ See Hafeez et al. (2002), p. 29.

¹²² See Schilling (2013), p. 117.

¹²³ See Hafeez et al. (2002), p. 30-31.

through the cross-business interactions across a multi-business firm.¹²⁴ Notably, each stage in the hierarchy represents integrated lower levels. Furthermore, the position in the hierarchy indicates the degree of value that is added to the organisation. Individual resources contribute only a little to corporate success, because they have limited influence. On the other hand, core competences add the largest value, as they are not restricted to departmental boundaries and take advantage of all resources and skills. Nevertheless, a higher position in the hierarchy also results in an increased difficulty for the company to achieve this level. A higher level requires a broader view and communication skills among different business units within an organisation.¹²⁵

Figure 6 presents another structure on how a core competence can be composed. In the architecture of Schiele (2001), there are similarities with the hierarchy of Javidan (1998). Clusters of resources and skills, which can be both internally or externally, form the competences. In addition, separate competences can also be combined to emergent competences. This is the case if two or more organisational strengths can be linked to each other and make the competence a more complete unity. The existence of the emergent-competence perspective has been found essential for management research on the core competence theory.¹²⁶ The final term in Figure 6 is the core competence; these are the competences and/or emergent competences that an organisation can use to provide clients unique value. (Emergent) competences must have specific characteristics and certain conditions, before they can be marked as core competence. Not all of the competences possess these features and therefore not all of them can be regarded as core competence of the organisation. This is the topic of discussion in section 2.3.3.

¹²⁴ See Bhamra et al. (2010), p. 4.

¹²⁵ See Javidan (1998), p. 62-63.

¹²⁶ See von Krogh & Roos (1995), p. 56.

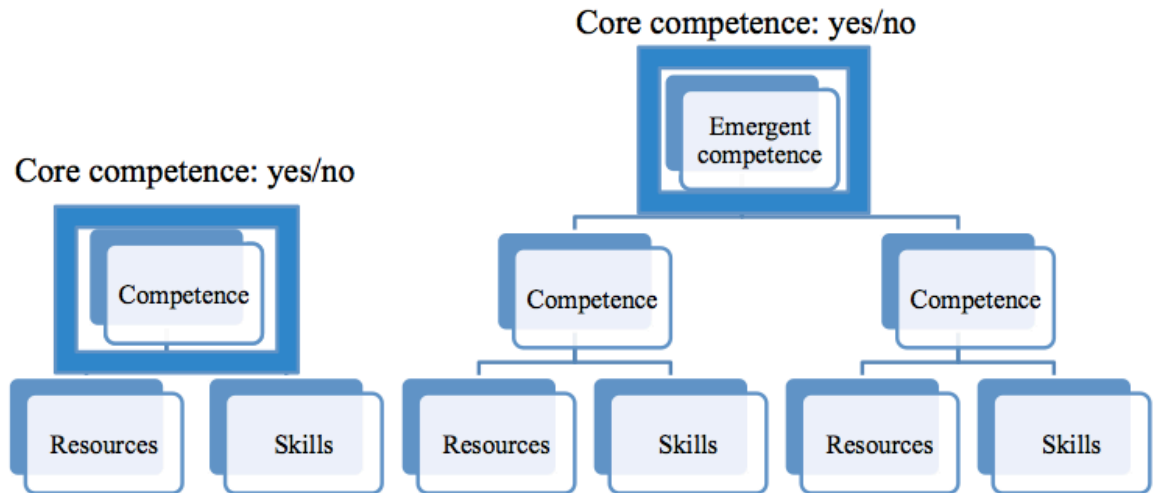


Figure 6: Resources and competences – relational expansion

Source: Based on Schiele (2001).

After there is a unified understanding of all the concept terms, another vital decision has to be taken. That is; which persons are going to participate in the identification process. It is evident that senior management is involved, but it can be dangerous if only their visions are taken into account. There can be a lack of in depth-knowledge. On the contrary, there is also a limit as to how many persons and what organisational parts should be included. The best is to strike the golden mean in which key functions, all BU's and important projects are involved in the identification process.¹²⁷ The next step includes the selection of a research model, which fits the situation best. Varying research subjects and objectives require different models. This will be the topic of discussion in the next section.

2.3.2. Models of core competences: depending on the type of research

When studying core competences, there are different research models that can be chosen from. It depends on the type of study what model is the most appropriate to use. If a researcher wants to study the effect of the implementation or evaluation of core competences, he or she needs a different model than when identifying or exploiting them. For instance, Yang (2013) developed a framework for the cultivation of core competences.¹²⁸ Questionnaires in combination with a structural equation model were the applied methods for this research. The results indicated what fundamental resources were necessary for successfully implementing the core competence concept. Another example is

¹²⁷ See Javidan (1998), p. 64; Torkkeli & Tuominen (2002), p. 275.

¹²⁸ See Yang (2015), p. 173.

the study of Shen et al. (2015), in which core competences of private enterprises in Xuchang City are evaluated with a multiple attribute decision-making model.¹²⁹ Their aim was to better understand what the exact value of the core competence is and how these values can be compared. Moreover, Xu et al. (2012) investigated the important aspects and maturing process of the core competitiveness of organisations. Their spiral model divides the evolutionary process of organisational competitiveness in four levels, which includes conformity, synergism, linking and internationalisation.¹³⁰ The main advantage of this model was that it could be applied to different types of companies and it indicates to what extent they possess competitive abilities. It is also an example of an evaluation model. On the other hand, Lin et al. (2011) developed a model to examine the causal and effect interrelationship of the core competences of the organisation.¹³¹ They used the DEMATEL method, which is the abbreviation for Decision Making Trial and Evaluation Laboratory, to create the model and divide core competences into two groups: causal - and effect competences. Results suggested that nurturing causal competences enhances competitive advantage.¹³² Overall, by utilising this model organisations can observe what specific core competences should be nourished and exploited to outperform rivals successfully. Liu and Sun (2011) developed an identification assessment model of core competences in real-estate enterprises.¹³³ They used fuzzy mathematics in combination with the comprehensive judgement method to detect the core competence and to better position it within the organisation.¹³⁴ This model is an example to identify the internal strengths.

To conclude, there are many different models that can be applied when studying core competences, it really depends on the type of research and what the actual objective is. The question is whether it is about implementation, evaluation, cultivation or identification of core competences within the organisation. In this study for instance, it is all about the latter, namely the detection of the current core competences of Case Organisation. Therefore, a complete identification assessment model has been applied. This model is based on the VRIN-characteristics and features of core competences, which are both discussed in the following section. Pearson et al. (2015) developed a likewise scoring

¹²⁹ See Shen et al. (2015), p. 3.

¹³⁰ See Xu et al. (2012), p. 327.

¹³¹ See Lin et al. (2011), p. 6262.

¹³² See Lin et al. (2011), p. 6262-6263.

¹³³ See Liu & Sun (2011), p. 47.

¹³⁴ See Liu & Sun (2011), p. 50.

model, but this focused solely on VRIN and intangible resources (also discussed in section 2.3.3).¹³⁵ The applied model in this research is extracted from the dissertation of Holger Schiele and is also discussed extensively in the next section, including all conditions and characteristics.

2.3.3 Identification assessment model: a complete analysis of the quality of core competences

Identifying core competences begins with the essential building blocks; namely the resources and skills. However, it is impossible that all resources, which are possessed by an organisation, are part of core competences and can result in sustained competitive advantage.¹³⁶ For instance, personnel trainings have a different influence on the relative position over rivals than a strong brand name. A resource or skill should hold four essential characteristics in order to be considered for this. These are regarded as the VRIN characteristics and proposed in Table 2. The VRIN-features are important for the creation of a research model with the objective to identify core competences (as mentioned in section 2.3.2). The characteristics help to detect those resources (as mentioned in section 2.2.3) and skills (2.2.2) that have the potential of being part of the core competences. Because combined resources and skills are competences (explained in section 2.3.1), VRIN – resources and skills are likely to form core competences (summarised in 2.2.1).

Characteristic	Description
1. Valuable	A resource should permit a company to adopt strategies, which is creating competitive value.
2. Rare	A valuable resource is rare and not possessed by many other rivals.
3. In-imitable	Only a single company possesses a good resource, this means that rivals are not able to replicate the resource.
4. Non-substitutable	Rivals should not have the ability to counter a competitive resource with a substitute resource that fulfils a similar purpose.

Table 2: the VRIN characteristics of resources

¹³⁵ See Pearson et al. (2015), p. 179.

¹³⁶ See Barney (1991), p. 102.

Source: based on Barney (1991), p. 106-107.

Resources that are regarded as valuable (improve efficiency of a company) and rare (not extensively owned) can achieve advantage over rivals.¹³⁷ Organisations that hold more valuable and rare resources have a better position compared to competitors and efficiency. Talaja (2012) found a relation between value and rarity of resources and concluded there is a direct - as well as an indirect effect on competitive advantage.¹³⁸ It is not exclusively independent, but the direct effect between value and rarity should still be regarded superior. Nevertheless, the best resources should also possess the remaining characteristics. This implies that they should further be in-imitable (difficult to duplicate by rivals) and non-substitutable (a resource cannot easily be replaced by another one). Overall, value and rarity are both essential for achieving sustained competitive advantage, when in fact in-imitability and non-substitutability are both crucial for holding it.¹³⁹ Resources must hold the VRIN-features to have a better position over rivals and continuous performance.¹⁴⁰ Furthermore, organisations that chase new opportunities, which are linked to the own VRIN resources, have a higher chance of being the first player in the market and achieve continuous growth.¹⁴¹ An example of a recent empirical study, which applied the VRIN characteristics, is that of Pearson et al. (2015). In this research, the role of intangible resources has been examined for 49 airlines in Asia and which of these are the true sources of competitive advantage.¹⁴² The participants were sent a survey, including an excel sheet with 36 intangible resources.¹⁴³ They were asked to distribute all resources 203 points on each of the four characteristics (based on the degree of value, rareness, inimitability, non-substitutability).¹⁴⁴ The results indicated that slots, brand and product/service reputation were assigned the highest average scores and were regarded the core intangible resources for Asian airlines.¹⁴⁵ This research also has a likewise approach in which points are assigned to conditions related to the VRIN features.

¹³⁷ See Priem & Butler (2001), p. 25.

¹³⁸ See Talaja (2012), p. 51.

¹³⁹ See Priem & Butler (2001), p. 25.

¹⁴⁰ See Diharto et al. (2017), p. 125.

¹⁴¹ See Nason & Wiklund (2015), p. 7.

¹⁴² See Pearson et al. (2015), p. 179.

¹⁴³ See Pearson et al. (2015), p. 181.

¹⁴⁴ See Pearson et al. (2015), p. 182.

¹⁴⁵ See Pearson et al. (2015), p. 183.

In this study, an assessment model is used to identify the current core competences of the case organisation. This model is also largely based on the VRIN-framework including characteristics and it helps to distinguish between core competences and regular (emergent) competences. The model is stated in Table 3. It contains six conditions, of which each can be awarded between zero and twenty points, based on four different stages. Each stage indicates a higher value level of the competence for the organisation. However, the higher the value, the more difficult it is to achieve.

To begin, the first condition deals with the uniqueness of the combined resources and skills. This uniqueness of resources is indeed an important component for value creation as indicated by Erislan (2017).¹⁴⁶ In addition, exclusive combinations of resources are directly related to some of the VRIN-characteristics, namely valuable, rare and non-substitutable.¹⁴⁷ Furthermore, the ‘resource/skill’ uniqueness is deeply embedded in the structural capital of the organisation.¹⁴⁸ Overall, this indicates that the fundamentality, the amount and rarity of the assets and abilities the main drivers are of the first condition. This means; the larger the number and the more uncommon the combination, the higher the competence value.

The second condition considers the degree of competitive advantage that is generated with the competence. It compares the competence value with the competitive position of rivals. Because it is the goal of the RBV to detect the true sources of (sustained) competitive advantage¹⁴⁹, it can be discussed that this condition is a crucial component for the identification assessment model. This is in line with the business idea that core competences form the foundation in gaining superior positions over rivals.¹⁵⁰ If organisations do not have a form of (and at the same time a competence with) competitive advantage, they have a shorter life and limited reason to exist.¹⁵¹ Therefore this second condition is so essential.

¹⁴⁶ See Erislan (2017), p. 191.

¹⁴⁷ See Duarte Alonso et al. (2016), p. 560.

¹⁴⁸ See Kamaluddin & Rahman (2013), p. 294.

¹⁴⁹ See Kraaijenbrink et al. (2010), p. 350.

¹⁵⁰ See Li & Yip (2016), p. 99.

¹⁵¹ See Pearson et al. (2015), p. 179.

The third condition goes deeper into the value characteristic, namely the extent to which the competence generates value for the clients. Especially the benefits regarding cost and innovation drive the overall customer value. It implies that the more clients appreciate these benefits, the higher the competence value. This condition is essential in the model, as customer value is believed to be a direct derivation of core competences at the moment.¹⁵² The highest competence value is achieved when it contributes considerably to the client's cost reduction and innovation. This is in line with the core-customer concept, as explained by Öberg (2011).¹⁵³ According to this theory, the greatest customer value is achieved when an organisation develops its operations around its clients. This means that the core competence upon which the business activities are based, is its client's added value.¹⁵⁴ It can be noticed that this third condition has overlap with the second condition; competences, which generate value customers appreciate, have a higher chance of simultaneously generating competitive advantage. In that case, the ability to create customer value is only an aspect of having a better competitive position; condition 3 overlaps condition 2. This is further discussed in the recommendation section in 6.1.

The fourth condition regards the in-imitability and non-substitutability of the competences. However, it is almost impossible to attain complete in-imitable and non-substitutable resources or skills, therefore it is more common to use the terms 'imperfectly imitable' and 'hard to substitute' nowadays.¹⁵⁵ The condition combines these terms with the time perspective and it suggests that the more complicated it is for rivals to duplicate a competence or harder it is to look for an alternative, the higher the value of this competence for the organisation.¹⁵⁶ Especially imperfectly imitable resources are critical when examining the sources of sustained competitive advantage.¹⁵⁷ Overall, this condition is crucial in the identification assessment model as the core competences of organisations are being built on the foundation of imperfectly imitable and hard-to-substitute assets and abilities.¹⁵⁸

¹⁵² See Zhendong et al. (2013), p. 423.

¹⁵³ See Öberg (2011), p. 2677.

¹⁵⁴ See Öberg (2011), p. 2677.

¹⁵⁵ See Pearson et al. (2015), p. 181.

¹⁵⁶ See Pearson et al. (2015), p. 181.

¹⁵⁷ See Jonsson & Regner (2009), p. 517.

¹⁵⁸ See Shen (2010), p. 1791.

The fifth condition examines the proportion of internal/external resources and skills. This is crucial in the process of identification, as core competences are acquired by connecting both internal and external elements of the firm with the goal to achieve superior performance over rivals.¹⁵⁹ This means that core competences are not only formed by resources/skills that are in-house, but also those that are accessible and located outside the firm (external partners). The condition explains that, the higher the relative amount of external assets and abilities is, including the complexity of the combination, the more valuable the competence for the organisation. Especially resources and skills, which are acquired by external collaborations, are important drivers for firm growth. Organisations need external relations, including their assets and abilities, to boost profit and to better exploit core competences.¹⁶⁰ In addition, external resources also support companies to better focus on their core competences, which in turn positively affects the competitive position.¹⁶¹ Therefore it is so important to rely not only on the internal -, but also on the external assets. This final given that a larger degree of external resources positively influences competitive advantage supports the statement that condition 5 may be overlapping condition 2. This is addressed in third paragraph of section 6.1.

The sixth and final condition deals with the fact if the competence can be applied to multiple markets. This was the first requirement of a core competence according to Prahalad and Hamel.¹⁶² It implies that if a competence can only be applied to a single current market, it has limited value for the organisation. However, if the competence can be transferred to multiple markets and it is meaningful, it has significantly beneficial effects for the organisation. Core competences, which contain a higher degree of value-generating abilities and more underlying products, are easier transferred to a larger client base in different markets.¹⁶³ Once again, it can be noticed that a condition has overlap with the third and therefore second condition. A competence that generates more customer value (condition 3) is easier transferred to more markets (condition 6). Likewise, this specific competence can have a positive influence on the competitive position of the organisation (condition 2). This issue is also addressed in the third paragraph of section 6.1.

¹⁵⁹ See Jardon & Martos (2014), p. 1.

¹⁶⁰ See Furlan et al. (2014), p. 20.

¹⁶¹ See Torvinen et al. (2014), p. 257.

¹⁶² See Prahalad & Hamel (1990), p. 83.

¹⁶³ See Lei (2000), p. 699.

	0-5 points	6-10 points	11-15 points	16-20 points
1) Does the competence consist of a unique bundle of resources and skills?	Few, widely available resources	Partially spread resource / skills bundle	Seldom availability of all resources and skills	Unique combination of many unique resources / skills
2) Does the competence generate competitive advantage?	Weaker than competitors	At the level of competition	Superior to competitors	World unique
3) Does the competence generate value customers appreciate?	No value to customer	Weak cost and innovation value to customer	Visible cost and innovation value to customer	Substantial and growing cost and innovation value
4) Is it difficult to imitate and to substitute?	Easy to imitate / substitute in a short term	Imitable / substitutable on medium term	Difficult to imitate / substitute on medium term	Hardly imitable / substitutable on long term
5) Does it rely on internal and external resources?	Only internal resources	Few internal and commonly accessible external resources	Combination of many internal and external resources	Complex combination of internal and uniquely bonded external resources
6) Can it be transferred into different markets?	Can only be applied to existing market	Applicable to other markets, but with limited relevance there	High relevance in an additional market	Can be applied to many markets and is of high relevance there

Table 3: Checklist for assessing the value of a (core) competence

Source: Dissertation of H. Schiele

Overall, this identification assessment model considers a wide variety of subjects. It deals with multiple characteristics and conditions of core competences. The model takes into account the uniqueness/rarity of the combined resources and skills, the competitive advantage, the customer value, the imitability/substitutability, the internal/external nature of assets and abilities, and finally the means of entry to different markets. Because the model reflects such a broad range of topics, it is a useful tool to identify the core competences. Therefore it is also applied in this research.

Up till now the main topics that have been discussed all related to the core competence concept. Special attention has been paid to the identification of these internal strengths within organisations. The analysed company in this research is a logistics organisation. Therefore the next theory section includes literature on the European transport sector, core competences in logistics and finally an introduction of the case organisation (Case Organisation).

3. Logistics: a primary service for the European market

3.1 The logistical sector in Europe: crucial for effective functioning of market

Logistics is known as a unified system that controls, coordinates and arranges several flows; including the physical flow of products and associated information such as documents, legislation and finance. These flows go from the place of production, to a possible warehouse, and finally to the end clients.¹⁶⁴ The ultimate objective of logistics is to meet the standards of the clients. This means that the right goods should be delivered at the right client, at the right place and time, in the right quantity, for the right price and against the right conditions. The significance of logistics has increased tremendously in the globalised world, as it is regarded as the backbone of the complex supply chains, which need effective and economical flows of products and information. Logistics must constantly adapt to changing circumstances in the environment and should therefore have dynamic capacity.¹⁶⁵ The market is fast changing and companies look for opportunities to distinguish themselves from competitors and to satisfy the clients. This is especially important for the transport sector, as rivals are fierce and prices are sensitive.¹⁶⁶

¹⁶⁴ See Wajszczuk (2016), p. 53.

¹⁶⁵ See Ecorys et al. (2015), p. 23.

¹⁶⁶ See Oberhofer & Dieplinger (2014), p. 236.

Nevertheless, the logistics sector is crucial for the effective working of the internal European market and economy. And this is also facilitated by the free flow of goods within the European Union. In addition, the sector provides a great contribution to the GDP and generation of jobs. Logistics also helps other industry sectors to increase their performance.¹⁶⁷ Sectors such as the automotive industry benefit from well-established supply chains, since the flows of the suppliers and the OEM's are better adapted to each other. In this way, logistics facilitates the mutual connectivity between the different parties within the supply chain. Nevertheless, despite the benefits, there are also some threats that the logistics sector is going to encounter in the near future. Great Britain is going to leave the European Union and it is still uncertain what the exact consequences are going to be for the transport sector. For instance, what will happen with the free flow of goods and what is the extra burden related to document management? Other main threats include the increased costs, the negative environmental footprint of the sector and finally a lack of skilful personnel.¹⁶⁸ The expenses are increasing in particular due to the higher fuel prices. Fuel is usually considered the largest head of expenditure for logistics companies, which means that a small increase in price has a large effect on costs. The threat linked to the negative environmental effect of logistics is about the emission of gases by the vehicles. Society nowadays is much more aware of the negative impact of fuel-driven transportation. Pollution of air and nature is a hot topic. As a consequence, governments are changing laws and rules to force the logistics sector to turn greener so the negative environmental footprint can be decreased. This asks for flexible behaviour by logistics organisations. The final risk in the future is about a lack of talented personnel. The logistics sector will face a large deficiency of skilled drivers. For this reason, plus the increased costs, an increased number of transport companies are moving further away in their search for trained and better payable staff. In particular the Eastern European countries are attractive sources to find new human resources. In the end, all of these future circumstances, combined with increased competition and high price sensitivity, motivate logistics companies to adopt other strategies in order to achieve a relative advance over their rivals. Emphasising on core competences is one way of getting such a competitive advantage. This concept in relation to logistics is discussed in the next section.

¹⁶⁷ See Ecorys et al. (2015), p. 16.

¹⁶⁸ See Ecorys et al. (2015), p. 16.

3.2 Core competences in logistics enterprises: an under investigated research topic that is gaining more interest

The core competence concept in relation to logistics is not a very popular topic among researchers. However, there do exist studies, in which this combination is further analysed. The majority of the existing literature focuses on qualitative and empirical research.¹⁶⁹ In their study, Yang and Tong (2017) examined the evolution of core competences in logistics companies. They found that service innovation ability is the crucial aspect of the core competence in logistics. In addition, the corporate culture of the organisations also has a strengthening effect on this ability.¹⁷⁰ Another ability that is important for forming core competences in logistics companies is the expertise to acquire external resources and skills. The integration of these assets and abilities help to create a stronger core competence. Finally, a stable environment has a major influence on transport organisations. Governments should assist by creating such policies, that these organisations can nourish their core competences in a calmer environment.¹⁷¹ This can only be achieved when politicians are not changing legislation on a regular basis; laws and rules should remain the same for a longer period. In any case, adjustments have to be announced beforehand, so that logistics companies have the time to adapt. Only then, governments support transport organisations with their core competence development. Another, more specific research has proposed on how to improve the core competences in the Chinese cold-chain logistics industry. It has been found that they could become better by increasing resource integration, improving customer value and upgrading information technology.¹⁷² By possessing the capability to better combine resources and skills, stronger core competences can be created. On the other hand, increasing the customer value is directly linked to the ‘V’ aspect of the VRIN – characteristics; the higher the value, the more unique the core competence. Finally, if a logistics firm has better technology, information and data exchange increases likewise. This positively affects communication between departments and the formation of core competences. Other studies have been dealing with the identification and evaluation of core competences of both 3PL - and 4PL enterprises.¹⁷³ These different types of logistics organisations need a separate approach to detect and examine their sources of sustained competitive advantage.

¹⁶⁹ See Yang & Tong (2017), p. 1-2.

¹⁷⁰ See Yang & Tong (2017), p. 8.

¹⁷¹ See Yang & Tong (2017), p. 9.

¹⁷² See Jian & Jing (2015), p. 2612.

¹⁷³ See Ren et al. (2008) p. 59; Li et al. (2010), p. 69.

In the end, the limited numbers of researches that consider both the concept as well as logistics, provide advise on how to identify, evaluate and/or improve the core competences of the organisations. These studies have been conducted in varying regions for different types of logistics enterprises. The numbers are growing, which is a logical consequence given the fact that logistics service increasingly contributes to the core competence of organisations and products.¹⁷⁴ To achieve sustained competitive advantage, managers need to look what strategic decisions they must make regarding the logistics. In the next section the case organisation of this study is introduced, Case Organisation. Some of the strategic choices of the company, such as the division in BU's, are further elaborated in that part.

4. Methodology

4.1 Principal research method: single case study of descriptive nature with qualitative data collection and quantitative assessment

When conducting a research, it is essential to select a well-considered design, as it is the backbone of the study. This design produces the glue that holds the project together.¹⁷⁵ As already mentioned, the purpose of this study is to find out what the current core competences of Case Organisation are and how the value of these competences can be assessed. This is in line with the aim of descriptive studies, which is explaining 'what exists' or 'what is going on'.¹⁷⁶ Moreover, it is about describing situations and events. Research is about making observations and then describing what was observed.¹⁷⁷ The actual goal is to explain phenomena, which is also the case in this study, where core competences are identified. An exploratory research is not appropriate in this situation. The objective of this type of study is to investigate phenomena, which are still unfamiliar to some degree and to question these. The outcome of exploratory studies help to determine whether the phenomenon is worth for further examination.¹⁷⁸

¹⁷⁴ See Yang et al. (2016), p. 9.

¹⁷⁵ See Trochim (2007), p. 19.

¹⁷⁶ See Trochim (2007), p. 25.

¹⁷⁷ See Babbie (2014), p. 95.

¹⁷⁸ See Gray (2014), p. 36.

For this research, the case study approach has been chosen as principal method. A case study is appropriate for an in-depth description of organisational phenomena. It helps to gain a deep understanding of real-life situations and to analyse data carefully in a particular situation.¹⁷⁹ The method is often chosen to find an answer to multiple types of questions.¹⁸⁰ It is usually applied in geographic environments that are not too extensive and have a limited number of research subjects.¹⁸¹ In addition, it is a single case study, as the research is executed in only one environment, namely at the Case Organisation head-office.¹⁸² Just for this organisation are the current core competences identified and validated. The results cannot be generalised for other logistics companies, as the results are specific for Case Organisation. However, the methodology and procedures can be applied in other organisations. Overall, because both a descriptive – and single case study are useful methods when explaining phenomena, which is in line with the goal of identifying core competences, this research is therefore a combination of both.¹⁸³ A main characteristic of a descriptive case study is that it has always a principal theory, which helps to interpret the phenomenon. For researchers it can raise problems during the project if aspects of this concept are not checked strictly on a continuous basis.¹⁸⁴ This research has dealt with the risk of misinterpreting the main theory and its related aspects. All elements related to the core competence concept, such as resources, skills and core products have been explained in the theory section of this thesis. In addition, all of these terms have clear definitions, which are substantiated, by scientific sources. These definitions helped to distinguish between the data that have been collected in the course of this research.

Descriptive research in combination with a case study-strategy, allows researchers to select certain methods of data collection, for instance surveys, interviews, participant observations and/or screening secondary data. These methods consist of both of qualitative and quantitative techniques. Nevertheless, in this research combination, the data is often gathered qualitatively, and evaluated quantitatively by using quantities, numerical means, percentages and other mathematical data.¹⁸⁵ The qualitative approach requires a deeper

¹⁷⁹ See Zainal (2007), p. 1.

¹⁸⁰ See Yin (2009), p. 4.

¹⁸¹ See Zainal (2007), p. 1.

¹⁸² See Baxter & Jack (2008), p. 549.

¹⁸³ See Baxter & Jack (2008), p. 548.

¹⁸⁴ See Zainal (2007), p. 3.

¹⁸⁵ See Nassaji (2015), p. 129.

interpretation of the respondent's ideas, perspectives and behaviour. Therefore it is regarded as a holistic approach where more data is collected. In qualitative research, the main point is to identify concepts and patterns in this data and define and specify these groups further.¹⁸⁶ The mix of qualitative data collection with quantitative interpretation has also been applied in this study. The exact process of this is discussed in the next section. It is also common in qualitative research that the design is considered flexible to some degree. The central question is not completely clear at the beginning of the study. Researchers always need time to settle in a place and receive feedback from participants. By doing this, they know what direction to take in the study and what additional data needs to be collected.¹⁸⁷ In short, there is always a need to redirect if necessary, especially in qualitative studies. This has also been significant in the course of this research.

4.2 A structured process for identifying and assessing core competences

A specific process has been followed to detect and analyse the core competences of Case Organisation. This procedure has been created to approach the problem statement in a more effective way. From the theory it is apparent that core competences are regarded as combinations of resources and skills and help to achieve sustained competitive advantage over the longer term. That is because they are valuable for the client, rare in the market, and in-imitable and non-substitutable by competitors. It is crucial to keep the theoretical conclusions in mind that core competences consist of separate resources and skills, plus they need to possess the VRIN – characteristics. Because for that reason, the research process has been divided into three separate phases, based on these particular scientific judgements. The three research steps are shown in Figure 6. Each phase has had its own methods and data collection. Furthermore, each specific step included its own involved decisions and desired outcome.



¹⁸⁶ See Nassaji (2015), p. 130.

¹⁸⁷ See Taylor et al. (2015), p. 8.

Figure 8: Research phases for identifying core competences

The phases imply:

- Phase 1:** *Recognition of resources and skills as input for competences* > this phase included the observation and detection of the separate resources and skills that form the competences. This step involved the collection of raw data from the research subjects, and transcribing these to more functional data.
- Phase 2:** *Design of competences by integrating resources and skills* > during this phase, data were filtered and competences were formed by combining the separate resources and skills.
- Phase 3:** *Identification of core competences by assessing value of competences* > in this final phase were the core competences of Case Organisation identified. This has been done by applying the identification assessment model, which is largely based on the VRIN – characteristics.

Overall, these have been the three main steps in this research. The next sections provide a more detailed description of the separate phases, including instruments, data collection methods, subjects, and data analysis.

4.2.1 Phase 1: Recognition of resources and skills as input for competences

The first step in identifying the core competences of Case Organisation was to recognise the resources and skills that actually form the competences. These resources and skills needed to be beneficial for the organisation. They could be integrated and had the potential to grow out to a competence.

The data to complete this phase was collected by conducting interviews. This was an appropriate method to collect the qualitative data in this research. Interviews can be outlined as conversations that have the objective of getting information about the interviewee's own experiences related to the described phenomena in the research.¹⁸⁸ The interviews were executed by means of separate discussions, with one interviewee at a time.¹⁸⁹ In addition, they were one-way dialogues, in which the interviewer asked the

¹⁸⁸ See Kvale & Brinkmann (2009), p. 3.

¹⁸⁹ See Adams (2015), p. 492.

questions and the interviewee replied.¹⁹⁰ By having separate conversations where only one person was questioning the other, a higher and more directional output was generated. This has also been realised because all dialogues were guided by using a list with questions. However, this list was only a tool to lead the interviewer throughout the conversation and to provide some structure. Semi-structured interviews are more flexible as they grant interviewees to provide their own ideas and impulsive reactions.¹⁹¹ The main advantage is that it involves open-ended questions that need immediate follow-up.¹⁹² That is another reason why this type of interview was suitable in this research; asking what the assets and abilities were, required instant clarification of the respondents. It was likely that these resources and skills were scattered all over the organisation, therefore it was essential to make a well-considered list of respondents to interview. In consultation with the company supervisor of this Master Thesis, the key respondents for the interviews were selected. All of the subjects were managers of a specific department and/or BU. They were selected based on their position at the organisational chart and their knowledge about the Dpt./BU that was falling under his/her responsibility. In addition, a considerable part of these respondents worked for many years at Case Organisation and provided information on the firm's core competences based on their experience. All in all, a list with interview respondents was generated, which could be regarded as representable for the Case Organisation organisation. An overview of these interviewees is presented in Table 5.

List of interviewed co-workers					
#	Work function	Department/BU	#	Work function	Department/BU
1	Manager Purchase & Development	Strategic Purchase	17	Director of People & Organizational Development, QESH Management	QESH/HRM
2	Director Sales & Business Development	Sales/KAM	18	Commercial Cluster Coordinator Sales & Business Development Staff	Support KAM/Sales
3	Sales & Account Development Manager	Sales/KAM	19	Cluster Manager	BU DEF
4	Business Unit Director	ABC	20	Process Manager Operations	ABC

¹⁹⁰ See Brinkmann (2014), p. 1009.

¹⁹¹ See Brinkmann (2014), p. 1008.

¹⁹² See Adams (2015), p. 492.

5	Manager Operations Network	Operations	21	BU Director DEF	BU DEF
6	Operations Manager Trucking	Trucking	22	BU Director Freight Management (GHI)	BU GHI
7	Manager Engineering Purchasing	Strategic Purchase	23	CFO	Board of Directors
8	Supervisor Sales Engineering	Sales/KAM	24	Marketing & Communications Supervisor	Marketing and Communications
9	Corporate Manager ICT	Corporate Information Management	25	Manager	ABC
10	Corporate Manager Insurances & Legal Affairs	Corporate Legal Affairs & Insurances	26	Corporate Process & ICT Consultant	Business Process Management
11	Manager QESH	QESH	27	Sales & Account Development Manager	GHI
12	Corporate Business Process & Information Manager	Corporate Information Management	28	Operations Manager NL	Ops ABC
13	Air & Ocean	GHI	29	Manager Trucking	GHI
14	Sr. Controller	Controlling & Treasury	30	Corporate Manager Real Estate & Facilities	Corporate Real Estate & Facilities
15	Cluster Manager	BU DEF	31	Director Case Organisation	BU DEF
16	CEO	Board of Directors			

Table 5: Interviewed co-workers of Case Organisation including work function & department/BU

In total 31 interviews were conducted of maximum one hour, which is considered the best length before both interviewer and respondent become fatigued.¹⁹³

Beforehand, when making separate appointments, every participant was contacted and sent an introductory presentation including a shortlist with questions to expect. The core competence concept including definitions of related terms, such as resources, skills and core products, were explained in this presentation. This allowed the participants to already think about the concept and to make some preparations for the dialogue. At the day of the appointment, previous of the actual conversation, the introduction was again presented to every single respondent to refresh the memory and to make him/her more familiar with the concept once more. In order to catch all information more effectively, the conversations were recorded. Making notes increases the chance that interviewers miss crucial information. Recording the dialogues, facilitates data processing and it makes sure

¹⁹³ See Schut et al. (2015), p. 6; Adams (2015), p. 492.

interviewers can pay more attention on the actual content.¹⁹⁴ Because the recording method is controversial to some degree, the respondents in this research were asked to give permission to record. All 31 agreed, but only if the recordings would not be used for other purposes beside this research. Another ethical issue concerned the anonymity of the participants. This was limited because of the objective of the study. Though anonymity can protect the interviewees of a research, it can also withhold them to really letting hear their voice.¹⁹⁵ They want their opinions and information to be shared with others. That was also evident in the course of this research phase, where the goal was to recognise the resources and skills of the organisation.

Based on Kamp (2013) an interview protocol was constructed for this research.¹⁹⁶ The list with questions was modified to the specific situation of Case Organisation. Some questions might have arisen spontaneously during the conversations; therefore it was impossible to set up a complete and conclusive list. The protocol is stated in Appendix II. The specific questions were asked with varying reasons and relate to the theory section. Question 1 is asked to get familiar with the interviewee, his/her responsibilities, and the activities at the department. Question 2 relates to the internal strengths (possible competences), the main focus of the RBV. And as the concept of core competences is derived from the RBV, it is relevant to ask this question.¹⁹⁷ It is discussed in section 2.1.1. Question 3, on the other hand, relates to the less successful activities; more likely to not be a competence. Question 4 is about the activities, which generate the most value for the customer. This relates directly to the Valuable-characteristic, as discussed in section 2.3.3.¹⁹⁸ Likewise, question 5, is about the activities on which rivals struggle to perform on the same level. This is linked to the In-imitable and Non-substitutable-characteristics, also discussed in section 2.3.3.¹⁹⁹ Question 6 relates to the recognition of resources, explained in section 2.2.3.²⁰⁰ Question 7 is about the recognition of skills, as discussed in section 2.2.2.²⁰¹ The logical following query 8 combines previous questions and asks the interviewee to name possible

¹⁹⁴ See Jamshed (2014), p. 87.

¹⁹⁵ See Kvale & Brinkmann (2009), p. 73.

¹⁹⁶ See Kamp (2013), p. 60.

¹⁹⁷ See Wang (2014), p. 33.

¹⁹⁸ See Barney (1991), p. 106-107.

¹⁹⁹ See Barney (1991), p. 106-107.

²⁰⁰ See Oxford University Press (2010), p. 1302.

²⁰¹ See Howland (2013), p. 9.

(core) competences. This is in line with the definition as presented in section 2.2.4.²⁰² Next, question 9 asks specifically for recent investments (i.e. resources and skills), which are used to nourish current (core) competences, explained in section 2.2.4.²⁰³ Some internal strengths need more nourishment than others, as stated in section 2.2.9. Finally, questions 10-12 relate to the program. These queries go deeper into the relation of resources/skills with the program. They were requested by the company supervisor as they had the potential to provide value information for Case Organisation, therefore the questions were added in the interviews. Nevertheless, for the objective of this study, they were less relevant.

Next step in the process was to transcribe the data so that resources and skills were recognised. All questions were categorised by theme in a data sheet. This resulted in different clusters, which each had its own central topic. The interviews were played one by one and the data transcribed in the corresponding cluster. The outcome was a list with broad data of 31 respondents on different topics. Some of these clusters were more relevant for the research objective than others. The cluster including resources, skills and possible competences provided crucial data for the research. Overall, at the end of phase 1, enough data was gathered to recognise the resources and skills that served as input for the competence design.

4.2.2 Phase 2: Design of competences by integrating resources and skills

The primary objective of phase 2 was to design the competences of Case Organisation, by examining what resources and skills of phase 1 could be integrated. The next action was to transform the extensive data sheet into a shortlist of competences for phase 3.



²⁰² See Schilling (2013), p. 117.

²⁰³ See Prahalad & Hamel (1990), p. 81.

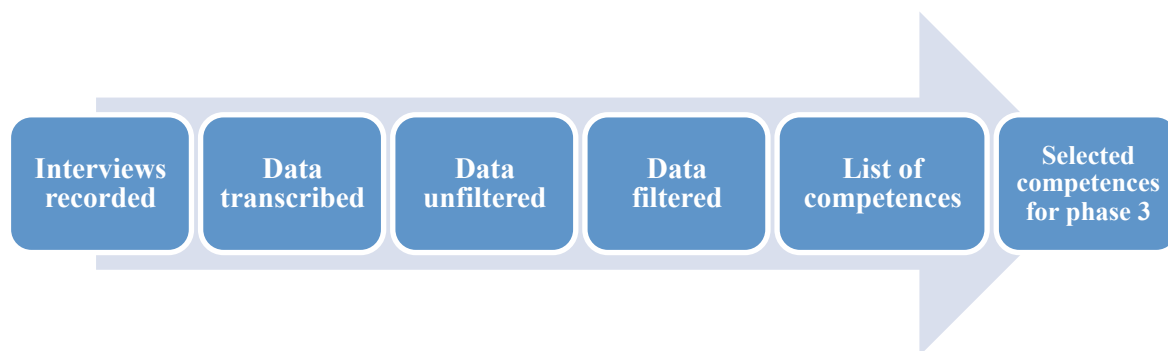


Figure 9: The steps in data processing

Figure 9 shows the subsequent steps how this was achieved. Phase 1 consisted of conducting and recording the interviews, including the transcription of the data in clusters. Phase 2 involved the filtering of the data, the design of the competences and the creation of the shortlist. The first step was to sort the broad data sheet of phase 1 into a structured overview with resources, skills and linked competences. This was done per department including the mentioning of one of three BU – or Corporate level. The reason for this was that according to theory, resources plus skills are functionally based and competences appear on BU-level.²⁰⁴ Therefore both were included. Next, the transcribed data sheet was scanned for relevant information. In particular questions 6,7 and 8 included crucial data on resources, skills and competences. The definitions of the related terms, which were discussed in the theory and summarised in section 2.2.1, helped to sort the data in an effective way. This decreased the chance of missing relevant information but also helped to correct any data that were misinterpreted. An overview of the terms including the description is in Table 6. In the end, the datasheet consisted of a considerable amount of competences and related resources and skills; unfiltered data.

The next step was to filter this data by mentioning only those resources and skills that were really relevant for the competence. The competences and corresponding resources/skills were acknowledged at that moment because they were mentioned in the interviews. However they could yet not be identified as core competence (this is in phase 3). For now, only those assets and abilities were indicated that were not too obvious. For instance, financial resources, collaborative skills and dedicated personnel were often referred to during the interviews; however, these are necessary components for any competence.

²⁰⁴ See Javidan (1998), p. 62.

Therefore, these types of assets and abilities were categorised under the organisation-wide resources and skills. With respect to the skills, only the specific work-related (hard) abilities were mentioned as part of the competences. That is because these abilities are genuinely part of the competence formation. Furthermore, as suggested by theory, the wordings of all data were checked and reformulated if necessary, so that a unified understanding was built for the competences.²⁰⁵ This was done in consultation with the company supervisor. His experience at Case Organisation, including his knowledge of logistics jargon helped to create accurate descriptions of the terms.

In the end, a filtered datasheet was the outcome, in which (emergent) competences were stated with the corresponding resources and skills. They were also sorted on department including BU. In addition, the products that were remarked during the interviews also got a place in the datasheet. An example of this was the trailer, remarked as: “(...) a crucial product and resource of Case Organisation”.²⁰⁶ Another instance is the team, cited as: “(...) a side service which is gaining importance”.²⁰⁷ There was no distinction made between core – and end products, as this was not part of the research. However, it could provide the management of Case Organisation with valuable information on how their competences were related to the product portfolio. In addition: “I would like to know what new products/services could come from the current core competences”. This was a citation of the interviewee who was designated with the project and also included in the workshop.²⁰⁸

²⁰⁵ See Schaupp & Virkkunen (2017), p. 104.

²⁰⁶ See Interview 4 (2017), p. 1.

²⁰⁷ See Interview 25 (2017), p. 1.

²⁰⁸ See Interview 26 (2017), p. 1.

Table 6: The terms and definitions related to the core competence concept.

Term	Definition
Resource	A stock, supply of money, materials, staff, and other assets that can be used by a person or organization to function effectively. ²⁰⁹
Skill	The ability or expertise that a certain co-worker or department possesses, which help to execute assignments with predetermined results within a given amount of time, energy or both. ²¹⁰
Competence	A combination of several integrated skills and resources. Something that a department or BU does successfully or efficiently.
Emergent competence	A combination of two or more competences, this is not always applicable.
Core competence	A(n) (emergent) competence that gives organizations the unique potential to stay ahead of rivals over the longer term; Therefore they should be: valuable for the client, rare in the market, in-imitable and non-substitutable by competitors. ²¹¹
Core product	A core product is an element which contributes to the value of end products; it is the link between the core competence and the end products ²¹²
End product(s)	End product(s) for each business unit; are being strengthened by core products

Finally, in this way a list with competences on corporate level and the three BU's originated from the filtered data sheet. Nevertheless, this list was considered too extensive for phase 3, as in this final phase there was not enough time to assess all detected competences. But more importantly was that not all of the items were relevant for further examination. Most of the competences had no potential to be or become a source of sustained competitive advantage for Case Organisation. In order to be a core competence, it should be valuable for the client, rare in the market, and in-imitable and non-substitutable by competitors.²¹³ Based on these VRIN – characteristics and in consultation with the CEO and company supervisor of the organisation, the number of items on the list was decreased. The outcome was a shortlist with an acceptable amount of competences. These were the assessed competences in phase 3 that had the potential to grow out to be the current core competences of Case Organisation.

²⁰⁹ See Oxford University Press (2010), p. 1302.

²¹⁰ See Howland (2013), p. 9.

²¹¹ See Barney (1991), p. 106-107.

²¹² See Prahalad & Hamel (1990), p. 85.

²¹³ See Barney (1991), p. 106-107.

Overall, phase 2 included a series of steps that began with transcribed data and ended in designed competences. It consisted of processing, checking, reformulating, and locking-in relevant information. The result of this phase was satisfying to proceed to the final step; identifying the organisation's core competences by examining the value of the separate items on the shortlist. This is the topic of the next section.

4.2.3 Phase 3: Identification of core competences by assessing value of competences

The main goal of the final phase was to determine which of the (emergent) competences on the shortlist could be classified as a current core competence of Case Organisation. First of all, Figure 10 provides a summarising overview of this transition. It stretched from the final step of phase 2, where a competence shortlist was created based on the VRIN-characteristics, to phase 3, where the core competences of Case Organisation were detected based on the application of the identification assessment model. This framework was similar as explained in section 2.3.3 and presented in Table 3.

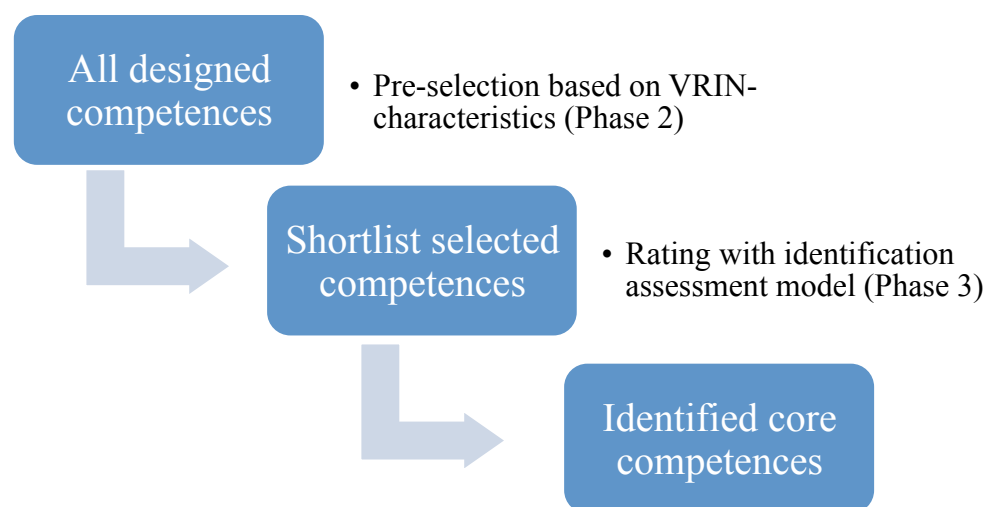


Figure 10: Transition process from all competences to core competences

The identification assessment model was applied in a workshop format, which was designed to not last longer than a day.²¹⁴ A workshop is a gathering of persons where the goal is to learn, obtain new information or solve organisational issues in an innovative way.²¹⁵ A maximum number of 25 persons are recommended according to theory for

²¹⁴ See Schut et al. (2015), p. 5.

²¹⁵ See Ørngreen & Levinsen (2017), p. 71.

keeping the meeting controllable plus to encourage discussion and communication.²¹⁶ In this research, there were 10 participants that represented the various levels of the organisation as can be seen in Table 7. As suggested by theory, a good reflection includes senior management, key functions, all BU's and important projects.²¹⁷ In this study, the majority of the management team, BU directors and the project concerning Case Organisation' product portfolio were involved in the identification process. Overall, the co-workers, who took part in the value assessment, could be considered as a good representation of the whole organisation. Furthermore, added up they had years of experience at the company. The two with the longest experience at Case Organisation were BU Director DEF; "I work here almost 46 years".²¹⁸ In addition there is the Manager Purchase & Development: "(...) approximately 24 years".²¹⁹ Nevertheless, the knowledge, opinions and arguments of all participants contributed greatly to the group discussions. In addition, the group debates were also better manageable because of the limited number of participants.

When workshops are used in the methodology of a study, the researchers usually aspire to collect accurate and sincere information around a certain topic.²²⁰ Generally, these topics refer to progressive steps of the business, for instance organisational ideas and self-awareness. The collected workshop data can be assessed with respect to the specific concept, which is central in the research.²²¹ All of this is the exact reason why the application of a workshop format was justified in this part of the research execution. The main objective of the researcher was to acquire specific data from the participants on the organisational competences, which led back to the theory of core competences. The outcome was important for the self-consciousness of the management and could provide a forward-oriented concept for Case Organisation.

²¹⁶ See Schut et al. (2015), p. 5.

²¹⁷ See Javidan (1998), p. 64; Torkkeli & Tuominen (2002), p. 275.

²¹⁸ See Interview 21 (2017), p. 1.

²¹⁹ See Interview 1 (2017), p. 1.

²²⁰ See Ørngreen & Levinsen (2017), p. 73.

²²¹ See Ørngreen & Levinsen (2017), p. 73.

List of participants workshop		
#	Work function	Department/BU
1	CEO	Board of Directors > Corporate level
2	CFO	Board of Directors > Corporate level
3	Director Sales & Business Development	Sales/KAM > Corporate & Network
4	Director of People & Organisational Development, QESH Management	QESH/HRM > Corporate level
5	BU Director Freight Management (GHI)	GHI
6	BU Director DEF	DEF
7	Cluster Manager	DEF
8	Cluster Manager	DEF
9	Corporate Process & ICT Consultant	Corporate Level (product portfolio project)
10	Manager Purchase & Development	ABC

Table 7: Workshop participants including work function & Department/BU

The workshop itself began with an introduction of the theory on core competences and related terms to refresh the memory of the participants. The importance of this research for the Case Organisation organisation was emphasised once more to so that the participants realised the relevance and were motivated to contribute to the discussion. Some examples were presented just as a summary of the research process. This included a shortened description of the methodology in this study; interviews to recognise the resources and skills, followed by the design of the competences and finally the workshop to identify the current core competences of Case Organisation.

Next, an elaborate explanation was given on the identification assessment model and the accompanying 6 conditions for core competences. The understanding of the model was also realised by the examples that were given for each separate condition. This was done by applying the driver development-competence and introducing the accompanying resources and skills that were mentioned during the interviews. These include the resources

driver training²²² and QESH, which contributes by "(...) to the development of drivers".²²³ And among these also the skills transport equipment & automotive logistics expertise, originating from the citation: "the technical expertise on equipment (...) emphasis on automotive transport help to develop products".²²⁴

All participants were asked to assign the separate competences on the shortlist between 0 and 20 points on each of the 6 conditions. This meant that every competence scored between 0 and 120 points for each participant. All rounds started with a description of the concerning competence, including what it exactly implied and of what resources and skills it was composed. Discussion between participants was allowed to further decrease the chance of misinterpreting the competence, however the points were assigned individually. The scores were collected after each round and entered in a data sheet. Eventually, after all rounds were finished, average scores between 0 and 120 were calculated for all competences. The items that had a mean of 80 or higher were regarded as the current core competences of Case Organisation. This benchmark of 2/3 of the maximum score has been selected, as it is practically possible that this score is can be achieved. It is over half, but less than three quarters of the max. If the benchmark is not achieved, the three with the highest score are regarded as the current core competences. This is a reasonable amount, recalling the theory in section 2.2.4. Nevertheless, in the end there is a lack of theoretical justification. In order to deal with this, it is recommended to execute a consortial benchmarking project. In such a project, researchers and practitioners collaborate to find the true benchmark score (for instance for a core competence) in a best-practice firm in a specific industry.²²⁵ This recommendation is also included in section 6.1.

Furthermore, by looking if there is a significant difference between mean scores on each separate condition for all competences could recognise a possible overlap or mutual dependency between the separate conditions of the identification assessment model. However, this is not feasible in this research, as there are insignificant amount of competences being rated by a limited amount of participants. This issue is further addressed in section 6.4.

²²² See Interview 6 (2017), p. 1.

²²³ See Interview 11 (2017), p. 1.

²²⁴ See Interview 16 (2017), p. 1.

²²⁵ See Schiele (2012), p. 45.

In the final group discussion, the participants gave their opinion on the outcome of the assessment and discussed how Case Organisation could apply the identified core competences more effectively within the organisation and towards clients. The discussion was managed by a facilitator, who guaranteed that each participant had the possibility to give his/her opinion. In addition, the debate was recorded and notes were taken to make sure that all information was captured. The facilitation and capture of information were crucial steps to process the results of the group discussion.²²⁶ The outcome of this, including the results of the previous research steps, are presented in the following section.

5. Conclusion

5.1 Concluding remarks and recommendations concerning the identification assessment model and Case Organisation

This research has provided a deeper understanding of the core competence concept and has emphasised its increased relevance in today's business environment. More and more organisations are aware of the concept and use it as a tool to produce strategies for outperforming rivals and to creating sustained competitive advantage. In order to do so, managers have to scan the external environment for opportunities and threats on a continuous base and have to decide what core competences match the situation best. Perhaps the correct decision is to create new core competences instead of spending more on current competences, or maybe vice-versa. In addition, choices of investment or disinvestment will always exist with regard to competences and its related resources and skills. Moreover, management should create clear strategies on how to exploit core competences in an efficient and effective way. Nevertheless, before organisations can even consider this, they must first be aware of the core competences, which are currently in their possession. This identification is a first, but also crucial step in successfully applying the concept. If organisations are unaware of their own distinctive factors in the present, it is more complicated to create competitive strategies on the longer term.

For this research it has also been the goal; identifying the core competences of a large logistics company combined with an assessment of their current value. The study has given insight in all competences of Case Organisation and in which exact resources and skills

²²⁶ See Schut, et al. (2015), p. 5.

they can be decomposed. Some are comprised of a complex combination of assets and liabilities; something that is even more valuable for clients, extra rare in the market and harder to imitate or substitute by competitors. The qualitative data for the competence design have been collected by conducting semi-structured interviews. On the other hand, the core competence identification has been realised by interpreting the qualitative data with a quantitative approach. Accordingly, multiple methods have been applied to gather, process and clarify the data in this research.

The identification assessment model, as discussed in section 2.3.3, has been an important part in this research. The six conditions deal with a wide variety of core competence characteristics and aspects. However, as already pointed out in the concerning section, it can be argued that certain conditions can be overlapping. This goes in particular for condition about customer value (3), which extends along the condition about competitive advantage (2). In addition, it can be supported that the condition concerning the transfer to multiple markets (6) overlaps condition about customer value (3). Finally, there are indications that the condition regarding the degree of internal/external resources (5) is also partially projected in condition about competitive advantage (2). In order to address these ‘overlapping’ issues, it is therefore recommended to alter the wordings to better indicate the concrete boundaries between the conditions. With clearer descriptions it is easier for both researcher and study subjects to understand and distinguish the conditions. However, before this is carried out, it is recommended to check if there is indeed no overlap between the conditions. This is also suggested in section 6.4.

Furthermore, as already explained in the introduction, for the identification of core competences it has been essential to distinct on the one hand between the parts from which a core competence is composed. And on the other hand, how the product portfolio is linked to the core competences. So far, studies have failed to combine both of these elements in a single study, which resulted in a theory gap. However, this research has solved the issue by linking all the fundamental aspects in a summarizing overview. The overview has been visualised by comparing all the elements of the core competence concept with sections of a tree. This idea has not been unique, as explained in section 2.2.6. Nevertheless, the inclusion of resources and skills below the core competences, and especially the organisation-wide assets and abilities (which forms the fertile ground to grow core competences and corresponding products) have not been applied before. This resulted in an

elaborated version of the visualisation and has provided a complete and understandable perception of the core competence concept. The comparison with the anatomy of a tree and the involvement of extra elements has helped to solve the issue and to close the gap in theory. All the aspects, both on the competence - and product side of the tree, have been addressed and had clear definitions. This helped to distinguish between terms and the subsequent competence design. In the end, the tree resemblance has made a great contribution in the process of identifying the current core competences. This went in particular when making practical recommendations for Case Organisation, which were based on the results.

The outcome of the study has indicated that Case Organisation currently has 27 competences, which are scattered throughout the whole organisation. Of all these designed competences, 10 have been selected for further analysis based on the VRIN-characteristics. This analysis has been executed by applying the identification assessment model during a workshop. The results of the model have shown that Case Organisation currently possesses 3 core competences. These assessed items have scored above the threshold of 80 points and are therefore regarded as core competence. They make the organisation unique at the moment and are the potential sources of sustained competitive advantage according to this research. Despite, there are also items, which have scored below the threshold of 80 points. These are not marked as core competence in this research. The items that had a mean of 80 or higher were regarded as the current core competences of Case Organisation. As already explained in section 4.2.3, the benchmark of $\frac{2}{3}$ (= 80) of the maximum (120) has been selected; as there is a possibility this score can be achieved in practice. If not, the three with the highest score would have been regarded as current core competences. It is a pure coincidence the results also indicate 3 core competences. However, because there is a lack of theoretical justification, it is recommended to conduct a consortial benchmarking project where researchers and professionals collaborate to find the true benchmark score for a core competence in a best-practice logistics organisation.²²⁷

However, the results also show that for some assessed (core) competences it is particularly noticeable that the minimum - and maximum awarded scores are diverging to a large extent. In the same way, the standard deviations for these items are reasonably large. These

²²⁷ See Schiele (2012), p. 45.

varying scores pinpoint that there are different ideas within the organisation on what the most important and developed competences are for Case Organisation. By looking at the deviating results of the identification – and value assessment analysis, it can be concluded there is not a consistent answer to the question on how many core competences Case Organisation has in possession. According to the outcome of this research the company currently owns a set of three. However, this is not a guaranteed situation for the future, as the number and composition of core competences change over time.

Therefore it is recommended that management utilise the outcome of this research to make the organisation itself more aware of its unique strengths. In particular, they should go into debate with key managers to create a harmonised view on what the exact core competences of Case Organisation consist of. A workshop, in which the identification assessment model is applied together with a group discussion, can be a useful combination to regularly evaluate the opinions of key managers. The results could indicate what competences are more relevant than others and which need more attention.

Nevertheless, the outcome of the group discussion in this research implies that all designed competences (so core and non-core) have been regarded significant for Case Organisation and have all been contributing to an effective functioning organisation. In order to maintain the beneficial effects of both these core – and non-core competences, it is recommended that they be nourished on a continuous base with new/better/more resources and skills. *Just like a tree and its roots need nourishment in order to grow larger.* It is also advocated that management use the results of this research for better resource - and skill allocation. Specifically, the study has shown what assets and abilities form a particular competence. This information is useful, for instance because management knows exactly what is necessary to improve a competence, as well as it knows where to extract abundant resources and skills for other purposes.

In addition, it is recommended that Case Organisation decides what current competences require further development and what new competences need to be created with respect to the opportunities and threats in the external environment; *i.e. determine what current trees need to grow larger and what new seeds need to be sown.* This consideration is crucial for the organisation, as it determines what the strategic directions are going to be for the upcoming years. Furthermore, from the results of this research it can be concluded that

Case Organisation possesses certain deeply embedded resources and skills, such as ‘freedom to operate’, an informal culture and an innovative mind-set, which facilitate the development of all (new) competences; *these form the fertile ground in which current trees can grow larger and new seeds spring to life*. These organisation-wide resources and skills of Case Organisation form the fundamental basis of all competences (core and non-core). It is recommended that management keeps promoting this vital type of assets and abilities to better cultivate their competences.

In the end, effectively applying the core competence concept within the company is the responsibility of management. When making strategies, the managers should consider what exact role the core competences are playing in the process. The concept is at least a useful tool to create organisational self-awareness. It can help to generate a harmonised understanding of the unique strengths across the different departments of a firm.

5.2 Contributions to science

The originality and contributions to knowledge are considered the most significant parts of scientific research.²²⁸ Therefore it is crucial to recognise the exact aspects in the study, which have been unrevealed topics and can be potential sources of information for other researchers. This study has contributed to science in several ways. The main research objective was to detect the current core competences of a large logistics company by applying theory and an identification assessment model. ‘Core competence identification’ in combination with ‘the logistics sector’ has been an under investigated subject matter. This research has addressed both of these topics. In addition it has provided an extensive literature review and a structured methodology to detect competences and determine value.

First of all, the literature section in the beginning of this research is containing a huge amount of information regarding core competences. It has started with a description of the history in strategic management, followed by an extensive explanation of the concept and its related terms. Special attention was paid to the aspects from which a core competence is composed of (resources and skills) and which arise from them (core – and end products). New in this research were that both these elements were combined and compared with a tree that grows in the fertile ground (organisation-wide resources and skills). This has

²²⁸ See Rugg & Petre (2004), p. 18.

provided a clear impression of the whole concept. The new addition of the organisation-wide assets and abilities to this research has contributed to make the concept more accessible. It implies that the more a company possesses these kinds of resources and skills; the better it can nourish and develop competences. In addition, the theory section of this study summarises concrete definitions of all core competence-related terms, a helpful tool to distinguish between them or recognising them in the first place. So far, other researchers have failed to provide this clear outline of concept terms.

Secondly, this study has contributed to science by providing an analytical methodology section to determine the current core competences in organisations. The research has been executed in subsequent phases based on literature. These phases, in which resources and skills have been recognised, competences have been designed and core competences have been identified, were a well-considered procedure. The tools that were discussed in the theory (concrete definitions of terms and identification assessment model) helped to successfully complete each phase. Furthermore all the steps have been executed with relevant and justified research methods, such as an interview protocol and a workshop format. These instruments made sure that the research process could be executed in an efficient way.

On the whole, the contents of this study can be utilised practically, by future scientists that want to study the core competence concept and want to identify them within the organisation. The literature section, as well as the methodology can serve as guidelines. The theoretical contribution of this research comes down to re-contextualisation, whereby an existent theory (the core competence concept) and framework (identification assessment model) is applied in a new environment (logistics company). In addition, it has contributed by making the concept more tangible because of the comparison with a tree and the introduction of organisation-wide resources/skills as fertile ground. Finally, the study has contributed to the perception of core – and end products in relation to the concept. The more core – and accompanying end products emerge from a core competence, the more valuable it is for the organisation. Probably this can be a contribution to the identification assessment model, and is therefore a suggestion for additional research, as explained in section 6.4.

5.3 Limitations of the research

Limitations exist in any conducted study. The urge to describe these restrictions comes from the fact that research is always executed to convince people from something.²²⁹ Without a proper clarification what could have been done differently and better, scientists can discredit the overall outcome of a study. Therefore it is essential to acknowledge and mention the research limitations.

This study was no exception and also had its limiting factors. Firstly, there was a restriction related to the researcher. He has had a positive or negative effect on the results of the study. In qualitative studies, this type of bias exists when phenomena, wordings or persons are described in a constantly incorrect way. In this research, it was possible that resources and skills remained undetected or competences had been described with different words than they actually intended in the first place. The fact all data had been checked, verified, and if necessary reformulated, in consultation with the company supervisor, could not have overcome this limitation completely. To make this more concrete; the probability is high that some resources/skills or competences were unclear or undetected during the interviews. However, the risk it has influenced the overall results/conclusions is minimum, as the rated competences and corresponding assets/abilities were all clarified during the workshop and all participants agreed on the identified core competences.

On the other hand, the researcher could have also biased the outcome by adding or omitting data that was (not) mentioned in the interviews. This chance of self-reported data can occur in qualitative studies. It means that the gathered information cannot be verified by independent sources. In particular telescoping could have been a restriction to this research, for instance certain resources and skills that were mentioned during one interview, had been taken for granted during another conversation. To make this more concrete; the probability is high that this has occurred to some degree in the design phase. For instance the resources, like 'IT-systems', 'office facilities' and 'freedom to operate', were mentioned in the majority of the interviews, but not all. In the end, these were regarded as organisation-wide resources/skills (part of all competences), and therefore an example of telescoping. The risk that this had a direct effect on the outcome and

²²⁹ See Shipman (2014), p. 7.

conclusions of the research is insignificant, as the competences and essential assets and abilities were clear during the workshop.

Another risk to the outcome of this research has been that both the interviewees and the workshop participants answered in a socially desirable way.²³⁰ Since they did not want to harm the organisation's interests, as well as their own. There is a realistic risk that for instance the Manager Purchase could have biased the results by purposely giving the competence 'Integrated Purchase' a higher score. Concretely, this could have altered the scores and ultimately the ranking of the competences.

A final limitation concerned the sample size during the workshop where the identification assessment model was introduced. There were only 10 participants who rated the competences, which resulted in large diverging scores and a considerable standard deviation. More participants could have resulted in a more reliable score, especially because the maximum amount of people is 25, as explained in section 4.2.3. Nevertheless, the workshop format was regarded as a successful method because it had facilitated interaction and group discussion; this would have been more complicated when the highest number of participants was present. Besides, all important departments and business units were represented during the workshop. However, this did not help to overcome the limitation. To make it concrete; more participants would obstruct group discussion, but could have made the scoring/ranking more reliable. The final section provides suggestions for further research, of which some of those are based on the limitations discussed in this section.

5.4 Suggestions for further research

Directions for additional research are always regarded as the staple in the communication of scientific discoveries in qualitative studies.²³¹ This research can also serve as starting point for further analyses on the core competence concept.

First of all, it is relevant for further research to focus on the limitations of this study. For instance in this design, the researcher could have had effect on the data and overall results.

²³⁰ See Price & Murnan (2004), p. 66.

²³¹ See Brutus et al. (2013), p. 72.

There had been a chance, especially in the first two research phases, that important information was missed, described in a consistently incorrect way, and unintentionally had been omitted or added. Therefore it is suggested for future studies on ‘core competence identification’ to create a methodology in which the effect of the researcher is diminished to a minimum level. This goes in particular for the sections in which the resources and skills are to be detected, and where these are processed into workable competences. In addition, for further research it is suggested to critically review the sample size in the ‘core competence identification’ phase. The results of this study were limited to some degree, because of the number of participants in the workshop. This also relates to the desire for a different methodology, which is something that should be addressed in future research.

Moreover, while this study has solely emphasised on identifying the current core competences, it is also essential to find a way to discover what future core competences and related resources or skills should be developed. Some of the content of this study, for instance the VRIN-framework, can be used as a tool to achieve this. It can be used to assess the specific characteristics future resources and skills should possess. However, in order to discover what exact competences are relevant in the time to come, it is essential to include the circumstances in the external environment. This implies that the methodology should not only focus on detecting resources and skills, but also focus on recognising the external opportunities and threats. Overall, it is indeed important to know what is making an organisation currently unique, but it is evenly significant to know what is making an organisation unique in the future. Therefore it is suggested that additional studies focus on this matter.

Furthermore it is suggested for new studies, that the existent methodology is used to detect the core competences in a case study in other industries. This was a single case study, where only one logistics organisation has been assessed. Therefore it is important to check whether the applied methods can also be used in other industry sectors, such as manufacturing, chemical and healthcare. The results could be compared to the outcome of this research to assess the differences in core competence value between industries. This would help to find out in which sectors it is easier to create true strengths and in which sectors it is more about the relative lead over competitors. For this reason, it is also crucial to execute consortial benchmarking projects, where researchers and practitioners collaborate to find the true benchmark score for a core competence in a best-practice firm

in a specific industry.²³² This is also suggested in sections 4.2.3 and 6.1. Overall, it is significant to apply the current framework, of which the identification assessment model is part, into new industrial contexts.

As a final direction for additional research, it is suggested to look for new ways to expand the identification assessment model, as proposed in the dissertation of Schiele. At the moment, the model contains 6 conditions that directly relate to the VRIN-characteristics and the features of core competences. It is recommended to discover more of these conditions to strengthen the model so that as a consequence the value of core competences can be assessed in a more effective manner. For instance, this study already suggested the inclusion of (core) products – condition in the model. The more core – and accompanying end products emerge from a core competence, the more valuable it is for the organisation. However, before this could be a contribution to the identification assessment model, it is suggested that it is elaborated in further research. Moreover it should be checked it has no similarity with other conditions in the model. In line with this are suggestions for future research that focuses on possible overlap or mutual dependency between the conditions in the current model, as already pointed out in sections 2.3.3 and the third paragraph of 6.1. As is the proposal for future research as indicated in section 4.2.3. In short, it is suggested to look if there is a significant difference (or not) between mean scores on each separate condition. In order to achieve this, a considerable amount of competences should be rated by a substantial amount of participants, to get a reliable result.

²³² See Schiele (2012), p. 45.

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Appendices

Appendix I: Interview protocol Core Competence Case Organisation

Interview protocol
Core competences research
Case Organisation B.V.

General info interviewee:

Date of interview:	
Name:	
Function:	
Years employed at Case Organisation	
BU and/or Department:	

Questions related to the identification of internal/external resources and skills within the different departments and business units.

1. Please describe in a few sentences;
 - 1.1 *Activities at this Department/BU.*
 - 1.2 *Your own responsibilities.*
2. What are the strong points/activities of this Department/BU?
 - 2.1 *What are the underlying factors of these strengths? These could be for instance; teamwork, formal or informal procedures, passion/enthusiasm, quality, flexibility, etc.*
 - 2.2 *Why do you think these are the strengths of this Department/BU?*
3. What are the points/activities that this Department/BU struggles with sometimes?
 - 3.1 *What is the reason/underlying factor for this struggle? For example; lack of trust, lack of communication*
 - 3.2 *In your opinion; how can it be solved?*
4. What activities executed at this Department/BU contribute most to the clients of Case Organisation in terms of value?
5. On which of the activities executed at this Department/BU, competitors struggle to perform at the same level as Case Organisation? (What makes the activities unique?)

6. Regarding the strong activities, that deliver value to clients and competitors struggle with; what internal and external **resources** does this department/BU possess that help to execute these activities successfully? These could be for example; trucks, information systems, software, location, etc.
 - 6.1 *To what degree are these resources unique? (Valuable for customers, rare in the market, in-imitable and non-substitutable by competitors)*
 - 6.2 *To what degree are these resources cross-functionally integrated within the different departments/BU's of Case Organisation?*
 - 6.3 *Do the mentioned resources describe only your Department/BU, or do they characterize Case Organisation as an organization?*
7. Regarding the strong activities, that deliver value to clients and competitors struggle with; what internal and external **skills** does this department/BU possess that help to execute these activities successfully? These could be for example; knowledge, experience, trainings etc.
 - 7.1 *To what degree are these skills unique? (Valuable for customers, rare in the market, in-imitable and non-substitutable by competitors)*
 - 7.2 *To what degree are these skills cross-functionally integrated within the different departments/BU's of Case Organisation?*
 - 7.3 *Do the mentioned skills describe only your Department/BU, or do they characterize Case Organisation as an organization?*
8. A competence is a combination of integrated resources and skills. Can you mention perhaps any competences based on the above-mentioned resources and skills?
9. Regarding the resources and skills at your Department/BU, are there any areas in which Case Organisation has invested and changed lately which has enabled it to remain unique?

Questions related to linking resources/skills to the Program.

A program, which Case Organisation started in order to prepare the organisation for the changing trends in logistics. in order to successfully fulfill Case Organisation ambitions, Do you think that the mentioned resources and skills, which your Department/BU currently holds, can contribute to the program?

10.1 If so, which resources and skills and why? If not, why not?

10.2 If so, to which of the four pillars would you classify the resources and skills and why?

10. Looking at content of the program (i.e. the four pillars), which of the mentioned resources and skills need extra attention and/or investments in order to contribute to Case Organisation ambitions.
11. Could you come up with new resources and/or skills that need to be developed to address the future trends in logistics and why?
13. Do you have any other remarks/questions?