UNIVERSITY OF TURKU
Turku School of Economics

Future competence needs of large Finnish companies

Sustaining competitiveness in international markets

International Business
Department of Marketing and International Business
Master's thesis

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11.5.2026
Helsinki

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Master's thesis

Subject: International Business
Author: Verna Antin
Title: Future competence needs of large Finnish companies: Sustaining competitiveness in international markets
Supervisor: D.Sc. Niina Nummela
Number of pages: 89 pages + appendices 8 pages
Date: 11.5.2026

Abstract

As a small and export-driven economy, Finland is dependent on international developments. As the international business environment is increasingly characterized as volatile, uncertain, complex and ambiguous, companies are exposed to novel challenges. In today's knowledge-driven economy, firms increasingly rely on competencies as a strategic resource. However, global megatrends, especially technological advancements, are shaping future competence needs. Existing research suggests that despite efficiency gains from digitalization, companies face challenges in ensuring employees possess the skills required for long-term strategic objectives. These evolving and unclear skill requirements and skill gaps have emerged as a critical challenge for sustaining competitiveness in international markets. This study aims to bridge this gap by examining what kind of competencies large Finnish companies need to strengthen and sustain their competitiveness in international markets in the future.

This study is based on a literature review. The literature review was guided by the resource-based view, the knowledge-based view and the dynamic capabilities approach to explain how competencies as a strategic resource contribute to sustained competitiveness in international markets. To explore this, the study was conducted using a qualitative explorative approach with empirical data collected through semi-structured interviews. The empirical data were analyzed following the Gioia method and the inductive analysis resulted in a data structure conceptualizing the phenomenon under study.

The findings of this study indicate that large Finnish companies place strong emphasis on human capital as a source of competitive advantage. Competencies are evaluated through operational performance and value creation, with complex and firm-specific combinations considered valuable, rare, inimitable and nonsubstitutable. Future competence needs are shaped by competitive and market pressures, technological transformation and increasing complexity. Companies respond through sensing environmental changes, seizing by investing in critical resources and transforming by integrating existing strengths with emerging competencies through, for example, continuous learning and upskilling.

The findings of this study extend the theoretical framework by introducing external drivers shaping future competence needs. Sustained competitiveness in international markets is not dependent on specific skills alone, but on companies' ability to continuously adapt and renew themselves. Finnish companies already possess strong technical competence in international markets, but the importance of human-centric competencies is expected to increase in the future, as they are not substitutable by continuously developing technology. Human-centric competencies and employee well-being are central to ensuring sustainable performance and long-term organizational success.

Keywords: Competence, competitiveness, human capital, resource-based view, knowledge-based view, dynamic capabilities, international business

Pro gradu -tutkielma

Oppiaine: Kansainvälinen liiketoiminta
Tekijä: Verna Antin
Otsikko: Suomalaisten suuryritysten tulevaisuuden osaamistarpeet: Kilpailukyvyn ylläpitäminen kansainvälisillä markkinoilla
Ohjaaja: D.Sc. Niina Nummela
Sivumäärä: 89 sivua + liitteet 8 sivua
Päivämäärä: 11.5.2026

Tiivistelmä

Pienenä ja vientivetoisena taloutena Suomi on riippuvainen kansainvälisistä kehityksistä. Kansainvälisen liiketoimintaympäristön muuttuessa yhä epävakaammaksi, epävarmemmaksi, monimutkaisemmaksi ja monitulkintaisemmaksi, yritykset altistuvat uudenlaisille haasteille. Nykyisessä tietopohjaisessa talousjärjestelmässä yritykset nojaavat yhä enemmän osaamiseen strategisena resurssina. Samanaikaisesti globaalit megatrendit, erityisesti teknologinen kehitys, vaikuttavat tulevaisuuden osaamistarpeisiin. Aiempi tutkimus osoittaa, että digitalisaation tuomista tehokkuushyödyistä huolimatta yrityksillä on haasteita varmistaa, että työntekijät omaavat pitkän aikavälin strategisten tavoitteiden edellyttämät taidot. Muuttuvat ja osin epäselvät osaamisvaatimukset sekä osaamisvajeet ovat nousseet keskeisiksi haasteiksi kansainvälisen kilpailukyvyn ylläpitämisessä. Tämän tutkimuksen tavoitteena on vastata tähän haasteeseen tarkastelemalla, minkälaista osaamista suomalaiset suuryritykset tarvitsevat vahvistaakseen ja ylläpitääkseen kilpailukykyään kansainvälisillä markkinoilla tulevaisuudessa.

Tämä tutkimus perustuu kirjallisuuskatsaukseen, joka esitteli resurssipohjaisen näkemyksen, tietopohjaisen näkemyksen sekä dynaamisten kyvykkyyksien käsitteen. Näiden avulla pyrittiin selittämään, miten osaaminen strategisena resurssina edistää kestävää kilpailukykyä kansainvälisillä markkinoilla. Ilmiön tarkastelemiseksi tutkimus toteutettiin laadullisena ja eksploratiivisena tutkimuksena, ja aineisto kerättiin puolistrukturoitujen haastatteluiden avulla. Aineisto analysoitiin Gioia-menetelmän mukaisesti ja induktiivinen analyysi tuotti ilmiötä jäsentävän datarakennemallin.

Tutkimuksen tulokset osoittavat, että suomalaiset suuryritykset korostavat inhimillistä pääomaa keskeisenä kilpailukyvyn lähteenä. Osaamista arvioidaan operatiivisen suorituskyvyn sekä arvonluonnin kautta. Monimutkaisia ja yrityskohtaisia osaamiskokonaisuuksia pidetään arvokkaina, harvinaisina, vaikeasti jäljitettävinä sekä korvaamattomina. Tulevaisuuden osaamistarpeita muokkaavat kilpailu- ja markkinapaineet, teknologinen murros sekä lisääntyvä monimutkaisuus. Yritykset vastaavat näihin muutoksiin havainnoimalla toimintaympäristön muutoksia, tarttumalla kriittisiin resursseihin investoimalla sekä uudistamalla osaamispohjaansa yhdistämällä olemassa olevia vahvuuksia uusiin osaamisiin esimerkiksi jatkuvan oppimisen ja osaamisen kehittämisen kautta.

Tutkimuksen tulokset laajensivat teoreettista viitekehystä sisällyttämällä mukaan ulkoisia tekijöitä, jotka muovaavat osaamistarpeita tulevaisuudessa. Kansainvälisen kilpailukyvyn ylläpitäminen ei perustu pelkästään yksittäisiin taitoihin, vaan yritysten kykyyn jatkuvasti sopeutua ja uudistua. Suomalaiset yritykset omaavat jo vahvan teknisen osaamisen kansainvälisillä markkinoilla, mutta ihmislähtöisen osaamisen odotetaan kasvavan tulevaisuudessa eikä jatkuvasti kehittyvän teknologian uskota korvaavan sitä. Ihmislähtöinen osaaminen ja työntekijöiden hyvinvointi ovat keskeisiä tekijöitä kestävän suorituskyvyn ja pitkän aikavälin menestyksen varmistamisessa.

Avainsanat: Osaaminen, kilpailukyky, inhimillinen pääoma, resurssipohjainen näkemys, tietopohjainen näkemys, dynaamiset kyvykkyydet, kansainvälinen liiketoiminta

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1 Introduction

1.1 Background for the study

The only global competitive advantage fully within Finland's own control is competence, and the future success of the country depends on it (Finland Chamber of Commerce 2019, 8). As a small country, Finland's export-driven economy is deeply embedded in international markets, making its national growth prospects tightly intertwined with international developments (Finland Chamber of Commerce 2019; Bank of Finland 2022). Yet the country has experienced limited economic growth for more than a decade, and a shortage of skilled labor threatens to further hinder the growth (Finland Chamber of Commerce 2025, 1, 26) and without strong competence, Finland cannot achieve sustainable growth (HS 2.3.2026).

At the same time, the international business environment has become increasingly volatile, uncertain, complex and ambiguous (VUCA), pushing internationally operating firms to seek new ways to cope with the environment (Petricevic & Teece 2019; Buckley 2020). In such conditions, firms must navigate rapid and unpredictable change, limited visibility into future developments, increasing operational complexity and situations where information is incomplete or even contradictory (Shet 2024, 687). Although the international business environment has always been somewhat turbulent (Contractor et al. 2026, 1), the competitive environment today is unlike anything this generation has ever experienced (IMD 2025, 14). Accelerated economic globalization (Minbaeva et al. 2025, 136) has intensified competition in international markets (Chabowski & Mena 2017; Andleeb et al. 2026), exposing firms operating across multiple locations to diverse and rapidly changing competitive pressures (Grøgaard et al. 2022, 636). International competitiveness reflects the extent to which a firm holds an advantage in offering its products or services in international markets (Hult 2012, 195–196). While competitiveness does not inherently imply competitive advantage, it reflects the minimum conditions for a firm to remain in the market. Meeting these conditions, in turn, provides the foundation upon which competitive advantage can be developed. (see Freiling 2004, 33.) In this study, competitiveness is understood as a fundamental prerequisite for a firm's continued existence.

With the intensified international competition, the shift from tangible goods and financial capital toward intangible assets (Luo 2021, 2) and a knowledge-driven economy (Bresman et al. 2010; Muzam 2023) has made traditional sources of competitive advantage increasingly insufficient for explaining how firms sustain competitiveness (Dagnino et al. 2021, 86). Instead, competition is based on knowledge (Porter 1990; Winter & Szulanski 2001) and knowledge-based competences (Kaur

2019, 1). As Javidan (1998) defines, competitive advantage refers precisely to those aspects of a firm's resources, capabilities and competencies that allow a firm to outperform its rivals. Prior research similarly emphasizes the importance of firm resources (Barney 1991) and capabilities (Teece et al. 1997) as key internal and external factors shaping firms' competitiveness (Chabowski & Mena 2017, 2). In the search for more adaptive and dynamic forms of competitiveness, firms have shifted their focus toward internal competencies. This shift underscores the role of knowledge, learning and skilled employees, as competence-based strategies depend heavily on scarce expertise. As a result, people have become a central strategic resource. (Bartlett & Ghoshal 2002, 34–35.) In today's rapidly changing business environment, employee competencies are critical to an organization's capacity to adapt and remain competitive (Shet 2024, 676).

However, global megatrends, such as technological transformation, geoeconomic fragmentation, economic uncertainty, shifting demographics and green transition, are shaping the skills required, as well as the workforce reconfiguration strategies organizations intend to adopt in response (World Economic Forum 2025, 5). Technological advancements, in particular, are expected to be the primary driver of changes in workforce skills (Van Laar et al. 2017; World Economic Forum 2025) and future competence needs (Finnish National Agency for Education 2019, 9). Since the COVID-19 pandemic, digitalization has rapidly advanced across all sectors of the economy, leading to a growing gap in competitiveness between digital frontrunners and those falling behind (IMD 2025, 20). Rapid technological advancements shorten the lifecycle of existing skills, and the pace is expected to continue accelerating (Lazarova et al. 2023, 4). Consequently, digital transformation is not only a technology-driven challenge, as it also depends on people, requiring organizations to reconfigure their resources and competencies to equip their employees with adaptable skills (D'angelo et al. 2024, 596). Today, the prospects of both employees and firms depend on their ability to understand and adapt to technological change (Stephany & Teutloff 2024, 1).

Despite the efficiency gains digitalization has created, companies continue to struggle to ensure that their employees possess the skills required (Lazarova et al. 2023, 4–5). Although sustaining competitiveness requires employers to invest in workforce reskilling, the specific skill requirements for many emerging roles remain unclear and continue to evolve (Stephany & Teutloff 2024, 1). According to Teece (2019, 44), once the necessary capabilities have been identified, a key question is how these capabilities can be developed and existing ones enhanced, especially as the literature on this issue remains limited. Shet (2024, 676) similarly notes that competence requirements in the VUCA context remain a relatively novel topic with scarce literature. Addressing these skill gaps is therefore more topical than ever (Rikala et al. 2024, 2). In Finland, future competence needs have

been anticipated through initiatives such as National Forum for Skills Anticipation (Finnish National Agency for Education 2019).[1] This study seeks to contribute to bridging these gaps by examining how internationally operating companies approach the identification and development of future competencies.

1.2 Aim and research questions

The aim of this study is to examine the competencies required for large Finnish companies to sustain international competitiveness, and how these competencies are evaluated and envisioned. Accordingly, the main research question of this study is: *what kind of competencies companies need to strengthen and sustain their competitiveness in international markets in the future?* To address the main research question, this study is guided by the following sub-questions:

1. How do companies evaluate their current competencies?
2. How do companies envision their future competence needs?

This study focuses on large Finnish companies, excluding both small and medium-sized companies (SMEs).[2] All companies included in the study meet at least two of the criteria and are therefore classified as large companies. Large companies were selected due to their significant economic impact. Although companies with more than 250 employees represented only around 0.1 % of all firms in Finland in 2024, they accounted for approximately 46 % of total business turnover and employed about 37 % of the workforce (Statistics Finland 19.12.2025). The companies are classified as Finnish based on factors such as ownership structure and headquarters location, and as large companies based on financial criteria, with both classifications relying on publicly available data.

This study focuses on broad competence needs relevant for large companies across industries, rather than industry-specific skill requirements. Competence is considered broad when it is required across multiple sectors of the economy and applicable to tasks in different occupational fields (Finnish National Agency for Education 2023, 6). Also, this study approaches future competence needs from the perspective of organizational competitiveness. Although competitiveness provides an important

[1] National Forum for Skills Anticipation was a joint expert body of the Ministry of Education and Culture and the Finnish National Agency for Education, operating from 2017 to 2024 with the aim of promoting dialogue between education and working life. The forum consisted of nine groups representing different industries and each group included representatives of various stakeholders. (Finnish National Agency for Education 2019, 9–10.)

[2] Under section 4 c (605/2024) of the Finnish Accounting Act (1336/1997), a company is classified as a large undertaking if, at the balance sheet dates of both the most recent and the preceding financial year, it meets at least two of the following three criteria: 1) total assets of EUR 25 million, 2) net turnover exceeding EUR 50 million, and 3) an average of 250 employees during the financial year.

context for this study, it is not directly measured or evaluated. This study does not assess firm performance, market position, or other competitive outcomes. Instead, the focus is on identifying competencies that may enable long-term competitiveness.

1.3 Defining key concepts

Scholars have yet to reach agreement on how to define concepts such as resources, competencies, core competencies, skills, or dynamic capabilities (Malhotra et al. 2025, 954) and each stream of research uses its own terminology (Coates & McDermott 2002, 437). For example, Hamel (1994, 12) uses the terms *competence* and *capability* interchangeably. Barney et al. (2021, 1942), in turn, treat *resources* and *capabilities* as synonyms, referring to both tangible and intangible assets. When clarifying the key concepts underlying a firm's competitive advantage, it is essential to establish a shared understanding regarding the hierarchy and relationship between organizational resources, capabilities and competencies (see Javidan 1998, 62). Figure 1 illustrates the relationships between the key concepts used in this study. Similar to Javidan (1998), the structure of the hierarchy is based on the relationship between elements, where each level builds on earlier ones and contributes greater value while also increasing in difficulty. Within this hierarchy, competencies and capabilities represent complex and valuable resources and are the most difficult to develop. They typically must be developed internally rather than purchased. (see Teece et al. 1997, 518.)

Resources form the foundation of the hierarchy, constituting the key inputs that enable the organization's value-adding activities. Each organization can be seen as a bundle of resources where individual resources contribute only limited value but serve as the building blocks from which competencies are later developed. (Javidan 1998, 62.) Helfat and Peteraf (2003, 999) refer to resources as both *intangible* and *tangible* assets and inputs that are controlled and owned by an organization. According to Wernerfelt (1984, 172), resources include, for example, in-house knowledge and skilled personnel. These resources are transformed into final products or services through a combination of firm-specific assets and bonding mechanisms, such as technology (Amit & Schoemaker 1993, 35). Barney (1991, 101) further classifies firm resources into three categories: human capital, organizational capital and physical capital. This study follows Barney's (2001, 54) definition of resources as: "*the tangible and intangible assets a firm uses to choose and implement its strategies*", focusing on the intangible resources.

Human capital (HC) reflects the education, experiences, insights, intelligence, knowledge and relationships of individuals (Barney 1991, 101). At its simplest, human capital can be seen as the knowledge embodied in people (Coff 2002, 108) or as the know-how enhancing employee

productivity (Langelett 2002, 1). Human capital is seen as the primary asset and key source of competitive advantage in today's organizations (Muzam 2023, 1642). However, organizational human capital extends beyond the simple summation of individual human capital, emerging from the integration of these capabilities (Guo & Chen 2022, 1082). *Human capital resources* refer to the knowledge, skills, abilities and other characteristics (KSAOs) that individuals possess and that can also be used at the unit-level (Ployhart & Moliterno 2011; Ployhart et al. 2014). There is a lack of consensus regarding the nature of human capital resources and the level at which they exist. Most of the traditional human capital scholars have focused on human capital at the individual level, whereas the more recent studies have increasingly examined human capital as a unit-level resource (Ployhart et al. 2014; Gerhart & Feng 2021). This study adopts Ployhart and Moliterno's (2011, 131) conceptualization of human capital as: "*a unit-level resource that is created from the emergence of individuals' KSAOs*".

Skills refer to a person's capability and readiness to perform tasks or processes effectively, applying knowledge responsibly to achieve goals (OECD 2019, 4). Skills are viewed as a resource at both the individual and organizational level, enabling companies to achieve competitive advantage (Sousa & Rocha 2019, 257). *Knowledge*, at its simplest, refers to what is known (Grant 1966a, 110). However, there is no unanimous agreement on the definition or conceptualization of knowledge (Grant & Phene 2022, 6). Accordingly, the literature presents multiple perspectives, viewing knowledge as a resource, capability, asset or process, while some studies combine these approaches or leave the concept undefined. Most studies adopt a positivist and objective perspective of knowledge, framing it as a resource, asset or capability. (Stoian et al. 2024, 8.) This perspective suggests that although knowledge is held at the individual level, it is also expressed in the regular patterns through which members cooperate within an organization (Kogut & Zander 1992; Grant 1997). Coates and McDermott (2002, 442) further describe knowledge as: "*an intangible firm asset, which can be demonstrated in the skills, expertise and problem solving of the firm*". This study views both skills and knowledge as an integral part of competence (see Javidan 1998; Coates & McDermott 2002).

Competence can be understood as a capability or ability consisting of a group of related yet distinct behaviors that are structured around a common underlying characteristic (Boyatzis 2008, 6). Freiling et al. (2008, 1151) describe competence as: "*a repeatable, non-random ability to render competitive output. This ability is based on knowledge, channelled by rules and patterns*". Similarly, Coates and McDermott (2002, 436) define competence as a combination of aptitudes, skills and technologies that the firm performs more effectively than its competitors, is difficult to replicate, and creates a competitive advantage. However, the concept of competence lacks a universally accepted definition,

as it is interpreted and applied in multiple ways across the literature (Nordhaug & Grenhaug 1994; Murray 2003; Le Deist & Winterton 2005; Sanghi 2016). Across the literature, competence is conceptualized differently, for example, with competence and competency used inconsistently, referring either to occupational capability or to individual characteristics (Le Deist & Winterton 2005, 29). Sanghi (2016, 11) distinguishes between competence (skill-based) and competency (behavior-based) while noting that there is an interface between the two. On the other hand, Salman et al. (2020, 731–732) suggest that both terms competence and competency refer to individual characteristics that enable outstanding performance. In this study, a synthesized definition of competence is used, referring to a capability grounded in knowledge, skills and behavioral attributes that enables effective performance and contributes to competitive advantage (see Coates & McDermott 2002; Le Deist & Winterton 2005; Boyatzis 2008; Freiling et al. 2008; Sanghi 2016).

A collection of competencies that are widespread across the corporation is what constitutes *a core competence* (Javidan 1998, 62). Core competencies are combinations of resources, capabilities (Cardy & Selvarajan 2006, 235) and special skills that enable a firm to deliver customer value (Hamel 1994, 13), leading to the differentiation of the firm from its competitors (Nordhaug & Grenhaug 1994, 95). This study adopts Prahalad and Hamel's (1990, 82) definition of core competencies as: *"the collective learning in the organization, especially how to coordinate diverse production skills and integrate multiple streams of technologies".*

Capabilities are an organization's ability to utilize its resources (Amit & Schoemaker 1993; Javidan 1998; Helfat & Peteraf 2003) and are typically classified into two main categories: ordinary (or operational) capabilities and dynamic capabilities (Cavusgil & Deligonul 2025, 34). In the existing literature, there are two dominant approaches to defining *dynamic capabilities*. One perspective conceptualizes dynamic capabilities as a firm's ability, capacity or competence; namely, an abstract characteristic embedded in organizational processes. In contrast, the routine-based approach views dynamic capabilities as concrete, complex and multidimensional organizational routines that generate the variation needed to modify and transform other routines. (Kurtmollaiev 2020, 4.) This study follows Teece et al.'s (1997, 516) traditional definition of dynamic capabilities as the organization's ability to integrate, build and reconfigure both internal and external competencies in response to rapidly changing environments. While this reflects the ability-based approach, this study also acknowledges elements of the routine-based approach, where dynamic capabilities are manifested through organizational processes and practices (see Zollo & Winter 2002; Winter 2003).

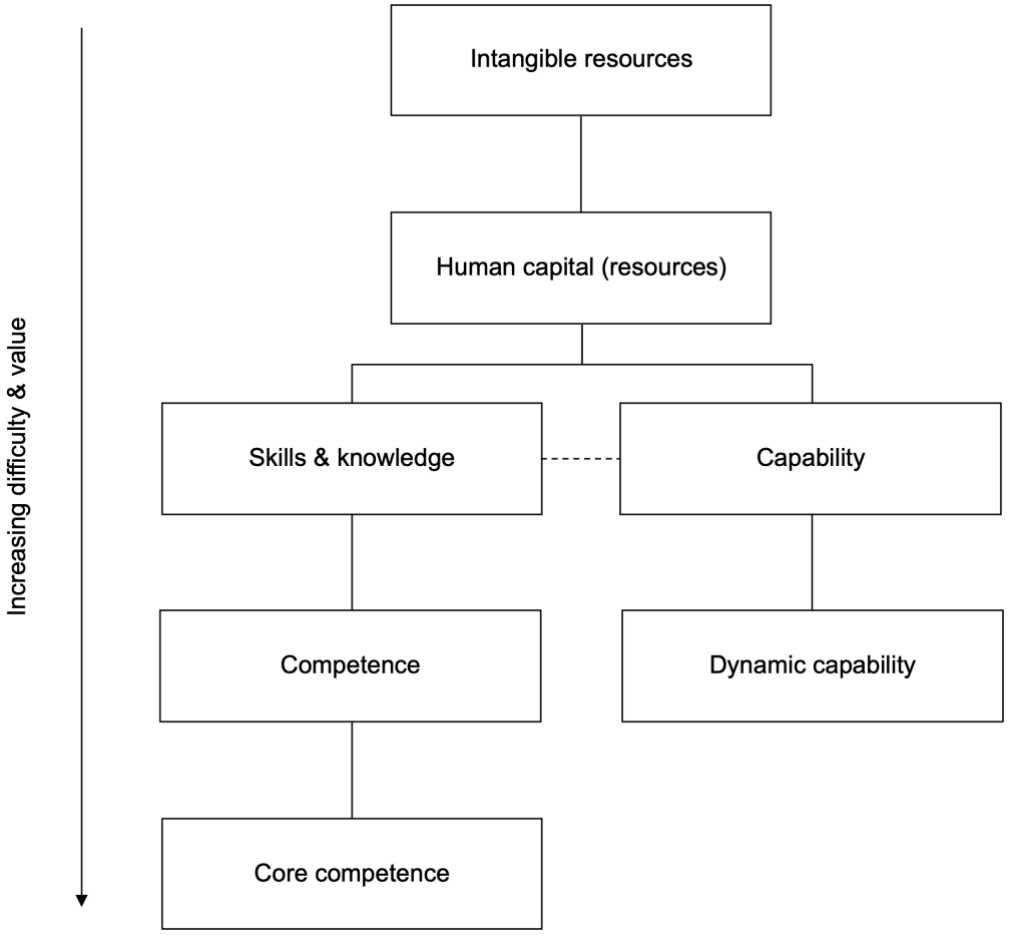

Figure 1 Relationships between the key concepts (adapted from Javidan 1998)

To summarize, the main concepts examined in this study are resources, competencies and dynamic capabilities. While several related concepts have also been introduced, these three constitute the central constructs of the study. The definitions adopted are grounded in established academic literature and underpin the perspective developed in this study.

1.4 Structure of the study

This thesis consists of six chapters and is structured as follows. Following the introduction, which presents the background for the study, the research questions, delimitations and key concepts, chapter 2 provides a review of the relevant literature. The literature review examines competencies as a strategic resource from the perspectives of the resource-based view and the knowledge-based view. The chapter also reviews dynamic capabilities and competence renewal and concludes by synthesizing these themes into a theoretical framework.

After reviewing the literature, chapter 3 describes the research methodology, including the research approach, data collection process and methods of data analysis. In addition, the chapter presents the evaluation of research quality, including ethical considerations and the declaration of the use of generative artificial intelligence.

Chapter 4 presents the empirical findings of the study. The findings are organized around drivers shaping future competence needs, conceptualization of future competencies and organizational response. Chapter 5 discusses these findings in relation to the research questions and extends the theoretical framework by developing a revised theoretical framework. The chapter also presents the conclusions of the study, including managerial implications, limitations and suggestions for future research. Finally, chapter 6 provides a summary of the study.

2 Literature review

2.1 Competencies as a strategic resource to sustain international competitiveness

2.1.1 Resource-based view and knowledge-based view

Within international business research, the resource-based view (RBV) of a firm has been applied to gain a deeper understanding of the resources that can serve as potential sources of competitiveness in international markets (Chabowski & Mena 2017, 3). The resource-based view provides a theoretical foundation for understanding how organizations achieve competitive advantage through the effective use of their unique resources (Wernerfelt 1984; Barney 1991; Coates & McDermott 2002), viewing firms as bundles of resources and capabilities (Barney et al. 2021, 1939). Developed partly in response to previous frameworks highlighting the external environment, the resource-based view introduced a new perspective focusing on internal resources of firms (Kraaijenbrink et al. 2010, 350), rather than external market conditions (Lockett et al. 2009; Helfat et al. 2023). The original resource-based view emphasizes that firms should focus primarily on their internal resources, as they have a stronger understanding of what they already possess and how to use it effectively. From this traditional perspective, limited value is placed on external analysis on acquiring new resources, as competitive advantage is seen to stem mainly from leveraging existing resource endowments. (Felin et al. 2023, 1516– 1517.)

Firms are more likely to gain a competitive advantage through the effective use of intangible resources than through tangible ones (Hitt et al. 2001, 14). Therefore, the resource-based view focuses on how firms leverage their internal abilities, assets, skills and knowledge as the basis for their performance and strategy (Coates & McDermott 2002, 436). Resource-based view treats competencies, capabilities, skills or strategic assets as the source of sustainable advantage for the firm (Nonaka & Takeuchi 1995, 46). The resource-based view considers firm-specificity as a characteristic of a resource. Resources that are specific to a firm are not exchangeable in factor markets and may therefore create a competitive advantage. (Ployhart 2021, 1779.) Such resources include, for instance, company-specific learning methods, familiarity with key organizational actors and other details related to the firm's structure that are unique (Lazear 2009, 914–915), while generic resources can be transferred and employed elsewhere (Ployhart 2021, 1779).

Resource-based view explains how resource heterogeneity (i.e., value, rarity) and immobility (i.e., inimitability) lead to sustainable competitive advantage (Beamish & Chakravarty 2021, 1862). *Resource heterogeneity* (Barney & Hesterly 2015; Gerhart & Feng 2021) refers to firms possessing

different combinations of resources and capabilities, even when operating within the same industry. As a result, some firms are inherently more proficient than others in performing specific activities. *Resource immobility,* on the other hand, suggests that these differences among firms can potentially be long-lasting as certain resources are costly, difficult or time-consuming for competitors to acquire or replace, making them effectively immobile across firms (Barney & Hesterly 2015, 87). If a firm's resources were perfectly mobile, any resource that supports a strategy based on entry or mobility barriers could be obtained by new entrants. After obtaining such resources, they could design and implement the same strategy as existing firms, eliminating the possibility of sustainable competitive advantage. (Barney 1991, 105.) Overall, these two assumptions partly explain why some firms can sustain competitive advantage over extended periods of time (Barney & Hesterly 2015, 87). However, sustained competitive advantage can only emerge when resources meet certain criteria, as resource heterogeneity and immobility alone do not ensure competitive advantage (Barney 1991, 105). As illustrated in Figure 2, heterogeneous and immobile resources that are valuable, rare, inimitable and nonsubstitutable (VRIN) have the qualities needed to sustain competitive advantage (Ployhart 2021,1779).

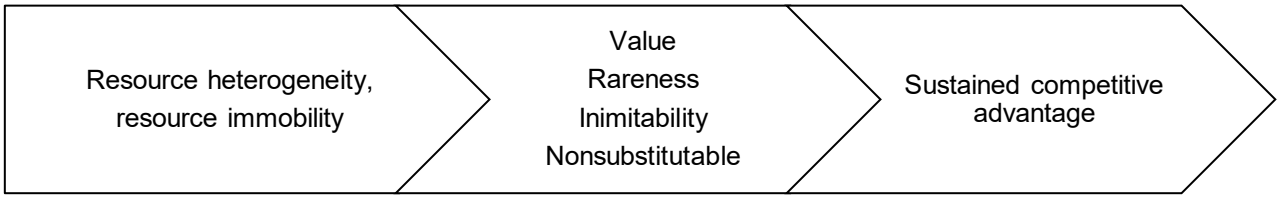

Figure 2 VRIN framework (adapted from Barney 1991)

The extent to which a firm's resources create value depends on how closely they meet the VRIN criteria (Chadwick & Flinchbaugh 2021, 187). Traditionally, certain physical resources have retained their value over long periods of time, and this way provided a stable basis for competitive advantage (Cuthbertson & Furseth 2022, 171). However, Wang and Ahmed (2007, 36) argue that in dynamic market environments, these VRIN resources are unlikely to remain valuable over time and therefore cannot sustain competitive advantage. Instead, in today's digital economy, value increasingly stems from algorithms, data and digital services whose value declines over time unless they are continuously updated and renewed (Cuthbertson & Furseth 2022, 171).

In addition to being valuable, certain traditional resources are also highly rare (Cuthbertson & Furseth 2022, 171). Digitalization has shaped both value and rarity of resources as a defining characteristic of many contemporary digital technologies is their general-purpose nature, as they are standardized and widely accessible for everyone (Knudsen et al. 2021, 361). While many firms can collect data

and create similar digital products, few can manage and integrate these resources at a global scale. Thus, it is the large-scale orchestration that generates the rarity and thus the competitive advantage in today's business environment. (Cuthbertson & Furseth 2022, 171.)

According to Ployhart (2021, 1779–1781), while some human capital resources may have VRIN characteristics, their specificity is shaped more by their link to firm performance and outcomes than by the resource itself. Guo and Chen (2022, 1082) argue that competitive advantage often stems from human resource combinations, even if those resources alone were simple, imitable or tradable, as the way human capital is built within a company tends to be complex and unique. Van Esch et al. (2018, 1685) similarly argue that human capital attributes are considered as a critical resource for firm performance, as organizations that can develop firm-specific, valuable and unique expertise and competencies are better positioned to outperform their rivals and succeed in dynamic business environments. However, Coff (1997, 374) argues that the mere existence of talented employees is not enough to guarantee a sustainable competitive advantage. Minbaeva et al. (2025, 137) question the assumption of human capital resource immobility, as for example, technological advancements, remote work and the emergence of digital platforms allow employees to contribute from almost any geographic location. Rather than ownership, relationships, communication and connectivity have become more important. Many resources can now be accessed through digital platforms on a temporary basis instead of being owned by firms. (Cuthbertson & Furseth 2022, 169.)

As the environments shift, failing to develop and update existing resources can cause former strengths to turn into weaknesses (Ambrosini et al. 2009, 15). For example, sustainable competitive advantage, once based on stable and widely demanded natural resources, can become vulnerable over time, as growing awareness of climate change gradually weakens the benefits previously derived from such resources (Cuthbertson & Furseth 2022, 174). When the resource-based view was first introduced by Barney (1991), the world's most valuable companies operated in industries dominated by physical resources, particularly oil. Today, the most valuable companies are mostly driven by data and digital technologies. Over this period, the basis of competitive advantage has significantly shifted from tangible resources to knowledge. Thus, the knowledge-based view (KBV) has redirected attention within the resource-based view toward knowledge as the most strategically important resource, particularly in enhancing innovation performance. (Cuthbertson & Furseth 2022, 170.)

As Nonaka (1991, 96) states, in environments characterized by ongoing change, firms increasingly rely on knowledge to maintain competitive advantage. Alongside the resource-based view, the knowledge-based view has emerged as a key perspective in understanding organizational success. It

extends the resource-based view by emphasizing not only the resources a firm possesses, but also its ability to apply and utilize knowledge to make those resources productive (Cuthbertson & Furseth 2022, 171). Knowledge-based resources, such as firm-specific knowledge, are largely developed internally within the firm boundaries and are therefore difficult for competitors to imitate or replicate (Bamel & Bamel 2021, 558), which in turn explains why variations in firm performance arise from differences in the knowledge each firm possesses (Kaur 2019, 4). Consequently, the knowledge-based view treats knowledge as the firm's most important strategic resource (Grant 1996a; Pereira & Bamel 2021) and thus the primary source of competitive advantage (Bergh et al. 2025, 4–5). According to Kogut and Zander (1992, 384), firm competitiveness is rooted in their ability to efficiently create and transfer knowledge within an organizational context. Grant (1997, 451) similarly views that firms exist to combine the many specialized forms of knowledge that individuals develop and provide the coordination needed to integrate different knowledge bases into goods and services. According to Teece (2014a, 16), a key feature of firms is their ability to generate and embody knowledge that cannot be easily bought or sold. Recognizing knowledgeable employees as a firm's scarce resource changes the way value is managed. Unlike Porter's idea of competitive advantage as a zero-sum game, the increased role of information and knowledge has shifted the focus toward value creation, as knowledge increases when shared, making competition less about value appropriation. (Bartlett & Ghoshal 2002, 36.)

The literature typically distinguishes between two forms of knowledge, tacit and explicit (Polanyi 1966; Grant 1996a; Stoian et al. 2024), although the distinction is complex (Grant & Phene 2022, 8). As described by Nonaka (1991, 98), *tacit knowledge* is difficult to observe and formalize, making it challenging to communicate or share with others. It can be divided into a technical dimension, involving informal know-how and a cognitive dimension, consisting of, for example, beliefs and mental models. Altogether, tacit knowledge consists of skills, know-how and contextual knowledge (Grant 2006, 207). Based on the resource-based view, tacit knowledge can be seen as a source of competitive advantage as it is unique, immobile, inimitable and non-substitutable (Ambrosini & Bowman 2001, 813). *Explicit knowledge*, in turn, refers to formal and structured knowledge (Nonaka 1991, 98) that can be easily communicated and shared (Ambrosini & Bowman 2001, 815) between individuals in an organization (Grant 2006, 207).

Knowledge is primarily created by individuals, who also function as the main repositories of tacit knowledge (Grant 1997, 451). Pucik et al. (2023, 176) suggest that certain employees possess valuable tacit knowledge and role-specific experience that are difficult to source from the external labor market. These types of strategically critical roles can contribute significantly to firm

performance. Although the majority of explicit knowledge and all tacit knowledge are embedded in individuals, much of this knowledge originates within the firm and is thus firm-specific (Grant 1996a, 111). This firm-specific knowledge is argued to have strong value-creation potential and is less likely to lose value over time (Pereira & Bamel 2021, 558). However, as Teece (2007, 1319) argues, operating in rapidly changing international markets, simply possessing valuable or inimitable knowledge is not enough to sustain competitiveness. Therefore, it is the ability to integrate knowledge, not knowledge itself, that creates competitive advantage (Grant 1996b, 380).

Knowledge-based view has been widely used as a key perspective in international business research (Stoian et al. 2024, 1) as the role of knowledge as a strategic resource is particularly evident in international business, where strategies involve integrating and deploying knowledge across borders (Grant & Phene 2022, 4). Knowledge is seen as a major source of competitive advantage, bringing together all the different resources, creating uniqueness among firms and eventually leading to stronger performance (Bergh et al. 2025, 4). Belderbos et al. (2025, 154) suggest that the primary capability and main source of competitive advantage of internationally operating companies lies in their ability to create and transfer particularly tacit knowledge across borders. For internationally operating companies, ongoing learning, innovation and adaptation to international markets and the ability to replicate capabilities will remain vital for their long-term success. By emphasizing how knowledge is developed, shared and applied, the knowledge-based view will continue to provide valuable insights into global strategic management. (Grant & Phene 2022, 18.) Building on this, the following section discusses competencies as a firm-level strategic resource to sustain competitiveness in international markets.

2.1.2 Competencies as firm-level resources

Competence-based approaches to strategy are founded on the premise that organizational competence is achieved through the effective integration of internal capabilities and external competitive dynamics (Sanchez & Heene 1997, 304). Resources and competencies emerge from firms' processes of combining and refining their activities, enabling them to compete effectively in markets and respond to competitive pressures (Coates & McDermott 2002; Freiling et al. 2008) and are thus essential for a firm's success and competitive advantage (Nordhaug & Grenhaug 1994; Salman et al. 2020). Similarly, Sanchez and Heene (1997, 306) suggest that an organization attains competence when it coordinates and deploys its resources in ways that support the achievement of its goals. Competencies not only constitute a critical resource themselves but are also necessary for utilizing

other resources effectively. This way, competence is essential for the strategic success of a firm. (Nordhaug & Grenhaug 1994, 89.)

However, competitive advantage stems from how resources are developed and used, not merely from their existence (Coates & McDermott 2002, 437). Not all competencies or capabilities translate into competitive advantage. A competency creates such an advantage only when a firm outperforms its competitors and the superiority is valued by the market. (Javidan 1998, 66.) Building on the resource-based view, not all human capital constitutes a strategic resource. Instead, the specific competencies developed within firms to enable employees to meet job-related demands represent a more valuable source of competitiveness. In this regard, human capital can be understood as either general (e.g., education) or firm-specific (e.g., competencies), with the latter being more closely linked to performance. (Van Esch et al. 2018, 1684.)

The majority of competence theories and models distinguish between firm-level and individual-level competencies (Taipale-Erävala et al. 2015, 3). However, the relationship remains unclear (Salvato & Rerup 2011, 474), and most of the definitions fall between these extremes (Škrinjarić 2022, 4). The difficulties in conceptualizing competencies and identifying an organization's actual competencies have been experienced not only by researchers advancing competency theories but also by managers attempting to put these competencies into practice (Sanchez 2004, 519). In this study, competencies are understood to originate at the individual level, but are developed, shaped and utilized within the organizational context.

Although competencies are discussed at the firm level, according to Nonaka and Takeuchi (1995, 13), an organization cannot create knowledge on its own as knowledge-creation depends on individual initiative and interactions with groups. Organizations therefore benefit from both individual and firm-level competencies. *Individual competencies* refer to individual characteristics that are lost when the individual leaves. For example, a manager with strong personal skills can have a significant impact on a business unit when they leave. (Turner & Crawford 1994, 242.) While often conceptualized as individual attributes independent of context, competencies are also shaped by the surrounding environment (Le Deist & Winterton 2005, 30). *Firm-level competencies*, in contrast, refer to a combination of characteristics, skills, motivation and knowledge possessed by the organization. These competencies are embedded in organizational systems and processes and are distributed across its technologies, structures and people. Firm-level competencies remain relatively stable over time despite individual turnover. (Turner & Crawford 1994; Guo & Chen 2022.) Different types of firm-level competencies emerge from varying levels of activities within an organization. Some firm-level

competencies are rooted in a firm's ability to develop and produce particular products, while others stem from its capacity to organize and coordinate resources in innovative and efficient ways. (Sanchez 2004, 522.)

Individual competencies support organizational performance, which in turn contributes to competitive advantage (Salman et al. 2020, 731). As illustrated in Figure 3, Boyatzis (2008, 7) views performance as the result of individual capabilities, firm-level factors and occupational requirements. Individual capabilities consist of, for example, competencies, knowledge, values and vision. Occupational requirements, in turn, refer to roles and tasks that need to be performed. The organizational environment shapes how competencies are utilized and developed, and includes factors such as core competencies, organizational culture, structures and systems. Optimal outcomes are thus expected when an individual's competencies correspond with the demands of the role and the broader organizational environment. Similarly, Sanghi (2016, 15–16) classifies competencies into organizational competencies, role competencies and individual competencies. Organizational competencies are unique capabilities that support competitiveness by enabling, for example, market access, enhancing customer value and remaining difficult for competitors to imitate. Role competencies, on the other hand, are competencies that contribute to effective performance in specific roles. Finally, individual competencies refer to the individual abilities that enable a person to perform tasks within a given role. While role competencies define the range of inputs required for a role, individual competencies reflect the level of achievement or output.

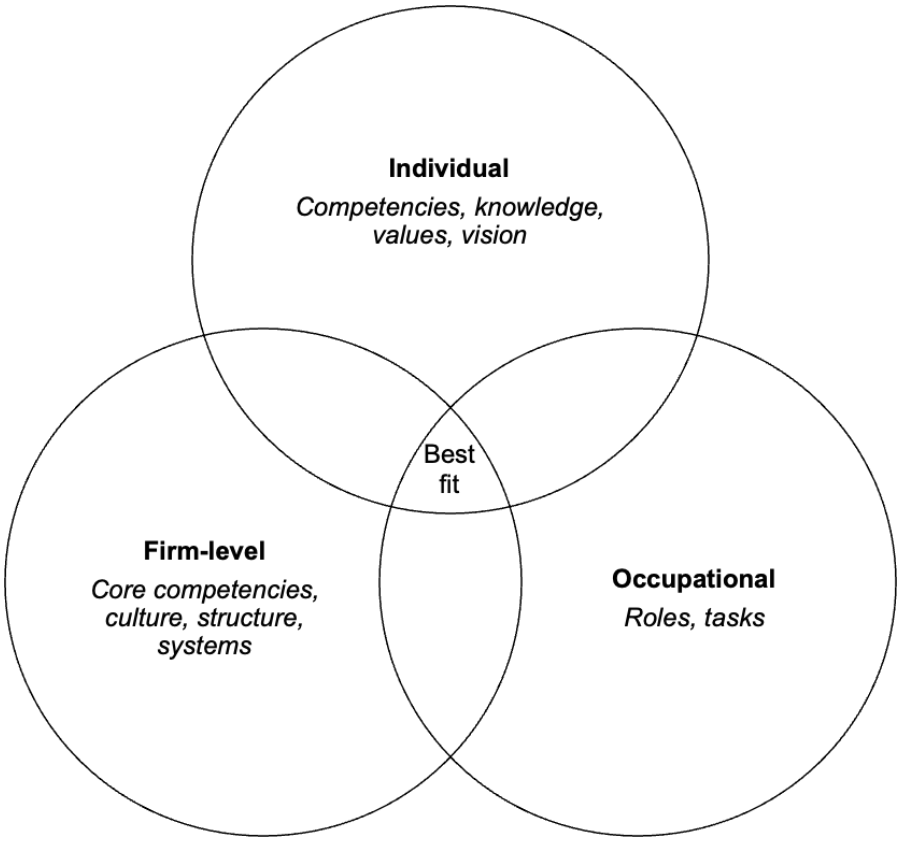

Figure 3 Relationship between individual and firm-level competencies (adapted from Boyatzis 2008)

Tiron-Tudor et al. (2025, 2) refer to occupational competencies as workplace competencies and further divide them into hard (technical) skills and soft (enabling) skills. *Hard skills* refer to, for example, business expertise, professional knowledge and the ability to use relevant tools, whereas s*oft skills* include abilities such as communication and problem-solving. Soft skills play a key role in applying and integrating technical knowledge in practical situations. Salman et al. (2020, 727) similarly argue that individual competencies can be divided into both a hard and visible side, referring to knowledge, skills and behavior, as well as into a hidden side, including traits, motives, attitudes, values and self-image. Together, these skills shape an individual's performance in a job. This job performance can be visible and measured through task completion or invisible, as seen in how skills and abilities are demonstrated. Van Esch et al. (2018, 1685) emphasize that one way to develop firm-specific human capital is through the internal development of employees' competencies. Employees who possess a broad range of competencies, including technical, behavioral and business-related skills and knowledge, are better equipped to meet job demands.

In today's VUCA environments, firm-level competencies play an increasingly critical role in maintaining a competitive edge (Kim et al. 2024, 657). Sustained advantage requires cultivating unique resource combinations (Hitt et al. 1998, 28), meaning a successful competitive strategy must

be grounded in a firm's *core competencies* (Javidan 1998, 66). Prahalad and Hamel (1990, 81–84) argue that competitiveness depends precisely on a firm's ability to build core competencies faster and more cost-effectively than its competitors, enabling the creation of unexpected new products. These core competencies should be difficult to imitate, particularly when they arise from a complex combination of technologies and skills. While competitors may replicate individual technologies, the coordination and learning underlying core competencies are much harder to copy.

As firms increasingly outsource complementary expertise, they can focus more intensively on building their core competencies (Muzam 2023, 1643). Managing these competencies involves selecting, building, deploying and protecting them (Hamel 1994, 25). Yet developing core competencies in dynamic environments remains challenging (Muzam 2023, 1637). To manage its core competencies, a firm must first be able to identify them (Hamel 1994, 26). Muzam (2023, 1635) states that competency management serves as a core strategic approach that aligns competent employees with organizational objectives and has become increasingly important for addressing organizational challenges and strengthening competitive advantage. However, linking certain skill sets and the competitiveness of output might be challenging (Hamel 1994, 26). Prahalad and Hamel (1990, 85) suggest that the connection between core competencies and final offerings is realized through core products, which embody one or more core competencies.

Although leveraging existing competencies is crucial for short-term competitiveness and often absorbs managerial attention and resources, it can come at the expense of developing new competencies needed for the future (Sanchez & Heene 1997, 307). Thus, the nature and scope of competencies required for a firm to remain competitive are not static (Turner & Crawford 1994, 243). Rapid technological advancements require firms to reconfigure their resources and competencies (D'angelo et al. 2024; Sabel et al. 2026) and competence-based strategies emphasize renewal by leveraging existing competencies to shape future markets rather than focusing solely on present ones (Coates & McDermott 2002, 438). However, firms need additional capabilities that allow them to continuously adapt, integrate and reposition themselves as conditions shift. As firms must sustain their competitiveness over time rather than merely achieve short-term success, competitiveness should be understood as a dynamic rather than purely static phenomenon (Falciola et al. 2020, 2) and alongside knowledge assets, firms require hard-to-imitate dynamic capabilities (Teece 2007, 1319). The following section builds on these perspectives by introducing the dynamic capabilities approach to strategic competence renewal.

2.2 Dynamic capabilities and strategic competence renewal

Dynamic capabilities refer to sophisticated capabilities enabling firms to build and reconfigure the competencies and resources required to compete (Tasheva & Nielsen 2022, 689). The approach emphasizes environmental change and shifts the focus from protecting existing valuable and rare resources to creating new combinations that will be valuable in the future (Matysiak et al. 2018, 229). Dynamic capabilities are difficult to imitate and can provide sustained competitive advantage (Pitelis et al. 2024, 3298). However, the link between dynamic capabilities and sustained competitiveness is neither direct nor automatic. Dynamic capabilities can generate new or enhanced resources and capabilities, but their rarity and value ultimately determine whether they translate into competitive advantage. (Ambrosini & Bowman 2009; Matysiak et al. 2018.) To be effective, dynamic capabilities must be deeply embedded in an organization's culture, as shared values shape attitudes towards risk-taking, experimentation, learning and tolerance of failure (Schoemaker et al. 2018, 19). The approach was originally introduced by Teece et al. (1997), as they analyzed the sources of sustainable competitive advantage. Since then, the approach has become one of the most influential conceptual frameworks in the field (Cavusgil & Deligonul 2025, 33) with particular relevance for international business (Teece 2025, 8).

Dynamic capabilities are particularly important for large companies operating in international markets, where constantly evolving environments require firms to balance established ways of operating with ongoing adaptation (Cavusgil & Deligonul 2025, 33). Internationally operating companies are not exposed only to dynamic industry environments, but also to dynamic country environments (Matysiak et al. 2018, 226). According to Teece (2019, 22), challenges occur when established routines no longer correspond to the evolving demands of the competitive environment. However, the strength of internationally operating companies lies in their ability to build interconnected combinations of resources and capabilities, which enhance strategic agility, resilience and responsiveness to change, thereby supporting sustained competitiveness. In dynamic environments, resource value is short-lived, requiring internationally operating companies to maintain stability through orchestration and flexibility that transform complexity into a competitive advantage. At the same time, their cultural and cognitive diversity further strengthens innovation and problem-solving capabilities. (Cavusgil & Deligonul 2025, 35–36.) Teece (2014a, 23) emphasizes that dynamic capabilities underpin the future prospects of internationally operating companies, supporting, together with the strategy, the development and maintenance of competitiveness in rapidly changing, knowledge-driven economies. However, a key challenge in applying the dynamic capabilities perspective to internationally operating companies is that it requires considering not only

firm-level factors but also country-level influences and their interaction. Traditional dynamic capabilities and resource-based approaches focus mainly on internal resources, overlooking how competitive advantage in internationally operating firms is shaped by firm-specific advantages (FSAs) and country-specific advantages (CSAs). (Matysiak et al. 2018, 227.)

In contrast to ordinary capabilities, which allow firms to create and capture value by applying existing goods or best practices, dynamic capabilities equip firms to transform how they generate and appropriate value by leveraging foresight, agility, business model innovation and forward-looking strategies (Pitelis & Wagner 2019, 234). Thus, ordinary capabilities support current operations, and dynamic capabilities enable firms to sustain competitive advantage in rapidly changing environments, where intangible assets drive differentiation (Teece 2014a, 23). Ordinary capabilities refer to doing the right things, whereas dynamic capabilities refer to doing the right things at the right time (Teece 2014a; Pitelis et al. 2024). Unlike ordinary capabilities, dynamic capabilities cannot be bought. Instead, they have to be built. (Teece 2014b, 332.) Dynamic capabilities can allow a firm to enhance its ordinary capabilities and channel them toward high-value opportunities. Achieving this involves developing and coordinating the firm's resources to respond and even influence changes in the market or the broader business environment. (Teece 2018, 43.) However, Pitelis (2022, 743) notes that the identification and selection of the right timing often rely on the availability of ordinary capabilities, making doing the right things at the right time inseparable from doing the right things. Consequently, the distinction between ordinary capabilities and dynamic capabilities is rather blurry. Winter (2003, 992) further adds that change can occur without having dynamic capabilities. Sometimes organizations are compelled to change due to external forces, whether predictable or unexpected, and regardless of whether the outcomes are positive or negative. Thus, organizations often find themselves having to respond to challenges for which they are not fully prepared. This kind of ad hoc problem-solving typically appears as a reaction to new environmental challenges or other relatively unpredictable events. Therefore, ad hoc problem-solving and the use of dynamic capabilities are two different approaches to organizational change. However, possessing ordinary capabilities alone is rarely sufficient to sustain long-term competitive advantage in today's VUCA environment and may even distract firms from preparing for future challenges (Schoemaker et al. 2018, 18).

Dynamic capabilities comprise three primary capacities: (1) *sensing*, encompassing the identification, development, co-development and evaluation of opportunities and treats home and abroad; (2) *seizing*, involving the mobilization of resources to address these opportunities and capture value; and (3) *transforming*, referring to continued renewal. (Teece 2007; Teece 2014a; Teece 2014b.) In prior research (e.g., Teece 2007), transformation has been conceptualized as the reconfiguration of

resources and capabilities. These three refer to the collective skills that organizations require when pursuing, for example, disruptive innovation (Schoemaker et al. 2018, 16) or when choosing where to operate (Pitelis et al. 2024, 3296). While all firms engage in these activities to some extent, many fail to do so effectively enough to remain fully aligned with a changing business environment (Teece 2019, 35). The microfoundations of dynamic capabilities, such as skills, processes and organizational structures that enable sensing, seizing and transforming, are difficult to build and implement (Teece 2007, 1319).

First, sensing involves identifying opportunities and addressing potential threats (Pitelis et al. 2024, 3298) before rivals (Schoemaker et al. 2018, 19). Within internationally operating companies, sensing involves identifying future sources of competitive advantage by evaluating the value and rarity of new combinations of resources and capabilities. In the international business context, sensing also involves determining which elements of a company's competitive advantage these combinations are likely to enhance. (Matysiak et al. 2018, 232.) Through sensing, it is necessary to identify what needs to change to improve the future outlook of an organization (Teece 2019, 44).

Next, seizing refers to the set of actions through which firms capture value from identified opportunities (Pitelis et al. 2024, 3298). Responding to identified opportunities or threats can be done by making investments that allow firms to create or leverage competitive advantages. Seizing focuses on mobilizing and allocating resources to capture opportunities or mitigate risks. (Ayden et al. 2021, 5.) The main goal of seizing in internationally operating companies is to establish efficient cross-border structures that allow firms to implement the combinations of resources and capabilities identified through sensing. (Matysiak et al. 2018, 237.)

Finally, sensing and seizing are pre-requisites for transformation and must occur before transformation and renewal (Teece 2019; Pitelis et al. 2024). Transforming in internationally operating companies ensures that the identified opportunities are translated into operational outcomes through continuous renewal of resources and capabilities, supported by effective governance, knowledge management and coordination (Matysiak et al. 2018, 238). Reconfiguring the resource base aims to keep it VRIN and relevant (Pitelis et al. 2024, 3298). This is particularly costly and challenging for large and established firms with irreversible assets, entrenched routines and complex organizational structures (Teece 2019, 39).

An organization with strong dynamic capabilities can effectively develop and renew its resources, assets and ordinary capabilities, reconfiguring them as necessary to drive innovation and respond to market changes (Teece 2018, 43). Thus, the approach offers a powerful lens for understanding

strategic change, particularly in digital transformation, where firms must continuously reconfigure their competencies in response to rapid technological and environmental shifts (Warner & Wäger 2019). As technologies tend to lose value over time (Coates & McDermott 2002, 438) and digital disruption reshapes the core business activities, threatening to outdate existing skills and resources, firms must further strengthen their dynamic capabilities to remain competitive (Ellström et al. 2022, 273–274).

A longstanding question within strategic management has centered on how multiunit firms develop firm-specific competencies and how these competencies can be renewed in response to shifts in the industry (Baden-Fuller & Volberda 1997, 96). Ongoing challenges, disruptive technological developments and evolving expectations across customers, markets and employees have amplified academic interest in understanding strategic renewal (Pantalena et al. 2026, 1). Especially, technological development is frequently emphasized in the discussion of strategic renewal (Agarwal & Helfat 2009, 288). There are different perspectives on how organizations renew themselves, with organizational learning and resource-based perspective offering different explanations (Schmitt et al. 2018; Weiss et al. 2024). The resource-based perspective views strategic renewal as driven by firms' efforts to reconfigure their resource bases. When facing constraints, firms seek to address capability gaps by modifying their resources, gradually developing dynamic capabilities that enable different forms of renewal. (Schmitt et al. 2018, 85–89.) The dynamic capabilities approach is used to frame the renewal challenge and to guide the discussion in capability development and enhancement (Teece 2019, 44). According to Ambrosini and Bowman (2009, 33), dynamic capabilities can be viewed as an organizational process that enables the renewal of a firm's resource base. At the core of sustained advantage within the dynamic capabilities approach is continuous strategic renewal whereby the organization is constantly retuned in response to, or in anticipation of, shifts in the business environment (Teece 2019, 33–34).

According to the definition of Agarwal and Helfat (2009, 282), strategic renewal includes the processes, content and outcomes through which an organization refreshes or replaces its key attributes in ways that can significantly influence its long-term prospects. Despite its wide recognition across research, there is no clear consensus on the meaning of strategic renewal (Schmitt et al. 2018; Weiss et al. 2024). The concept is often used to describe changes in organizational structures, corporate strategy, resources, competitive positioning, business models, or other aspects of a firm's current state (Weiss et al. 2024, 596), such as the alignment of competencies with the environment (Schmitt et al. 2018, 84). Flier et al. (2003, 2169) similarly define strategic renewal as the strategic actions through which firms align their competencies with the environment to strengthen competitive advantage. Yet

the process of strategic renewal remains difficult, as traditional strategic management approaches do not sufficiently support the continuous development of new businesses and competencies within established organizations (Weiss et al. 2024, 595). This study approaches strategic renewal from a competence perspective, focusing on the identification of future competence needs required to strengthen and sustain firm competitiveness.

Renewal typically involves developing or acquiring new capabilities within the firm to support a new strategy, either through internal development or external sourcing (Teece 2019, 40). Internal development focuses on leveraging existing knowledge, while external sourcing introduces new capabilities and helps overcome organizational inertia. Combining these approaches effectively enhances renewal and long-term success. (Capron & Mitchell 2009, 294.) In today's uncertain and volatile environment, established firms must continuously renew their competitive positioning by balancing the exploitation of existing operations with the development of new opportunities and competencies (Weiss et al. 2024, 595) to sustain competitiveness, even when future sources of value remain unclear (Turner & Crawford 1994, 241). However, Floyd and Lane (2000, 161) argue that at any given time, it is difficult to anticipate which competencies will be valuable in future competitive environments.

Maharani et al. (2024, 709) draw on the case of Finnish telecommunication and information technology company Nokia to demonstrate how insufficient competence renewal can weaken a firm's competitive position. Despite its dominant market share in the past, Nokia failed to respond effectively to changes in the market, illustrating how a lack of competence renewal can undermine performance. The renewal should begin by questioning the constraints on an organization's competitiveness, growth and prosperity, with sensing used to identify what must change to improve its future outlook (Teece 2019, 44) and as environmental changes render competencies obsolete, their continuous renewal becomes essential (Taipale-Erävala et al. 2015, 6). Maharani et al. (2024, 709) state that firms that engage in strategic renewal are better positioned to sustain competitiveness, as highly competitive environments require the continuous development and upgrading of competencies to adapt and ensure long-term survival.

Dynamic capabilities and strategic renewal thus provide an important theoretical lens for understanding how firms maintain competitiveness over time. The following section builds on this and draws together the theoretical perspectives discussed in this chapter to examine sustaining competitiveness in international markets.

2.3 Sustaining competitiveness in international markets

Achieving and sustaining competitive advantage is a central concern of strategic management and has been explained through both the resource-based view and the dynamic capabilities perspective (Baishya et al. 2025, 2). The resource-based view has been criticized as a static perspective, making it inadequate for framing corporate strategy in today's rapidly changing environment. Efforts to reinterpret it as a more process-oriented and dynamic approach contributed to the development of the knowledge-based view and the dynamic capabilities approach. (Kaur 2019, 2–3.) Research on competencies as a firm-level resource to sustain international competitiveness thus draws on several interconnected research streams. The literature reviewed in this study highlights the significance of a rapidly changing international business environment, often framed as VUCA (Petricevic & Teece 2019; Buckley 2020), as well as the role of digital technologies (Van Laar et al. 2017; Farzaneh et al. 2022; Lazarova et al. 2023; Sabel et al. 2026) in shaping the future competence needs of companies (Kim et al. 2024).

The theoretical framework of this study, presented in Figure 4, integrates insights from the resource-based view, the knowledge-based view and the dynamic capabilities approach to explain how competencies as VRIN resources, embedded within an organizational context, contribute to sustained competitiveness in international markets. As illustrated in the framework, organizational performance is driven by the interaction between resources, capabilities and strategy. More precisely, dynamic capabilities, together with ordinary capabilities, generic resources and VRIN resources, when guided by an effective strategy, enable firms to achieve sustained competitiveness in today's ever-changing and knowledge-driven economy (see Teece 2014b).

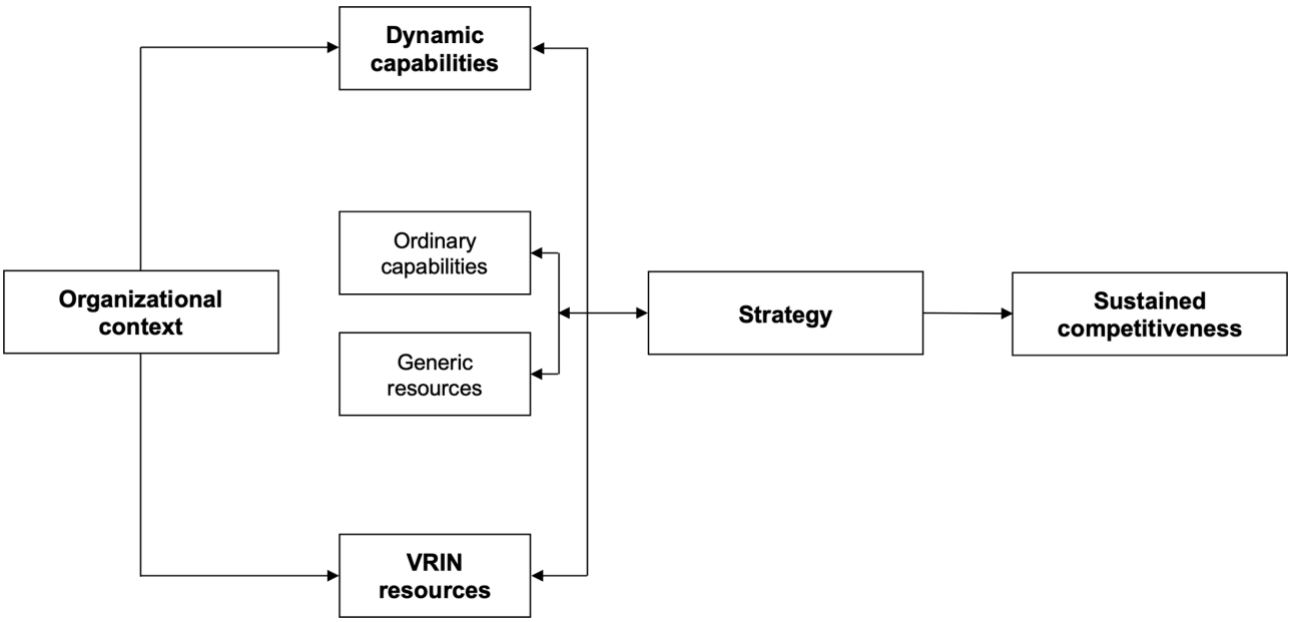

Figure 4 Theoretical framework (adapted from Teece 2014a; Teece 2014b)

The dynamic capabilities approach extends the resource-based view by addressing its relatively static nature and emphasizing firms' ability to adapt, integrate and reconfigure resources in changing environments. Rather than replacing the resource-based view, the dynamic capabilities approach offers a complementary extension by incorporating the critical dimension of time, change and strategic renewal, thereby broadening the understanding of how competitive advantage is sustained over time. (Cavusgil & Deligonul 2025, 35–36.) Although the dynamic capabilities approach extends the resource-based view, Barney et al. (2021, 1947) note that for dynamic capabilities to generate competitive advantage, they must be rare in relation to competitors. If multiple firms within the same industry possess similar dynamic capabilities, these no longer serve as a basis for differentiation and thus cannot lead to superior performance. Kaur (2019, 8) describes the relationship between dynamic capabilities and knowledge-based view and argues that so-called *knowledge-based dynamic capabilities* are especially relevant for internationally operating companies, as they operate in environments marked by complexity, uncertainty, intense global competition and rapid technological change. In such economies, the future success of companies depends on these capabilities.

The study of Lin and Wu (2014, 411) found that dynamic capabilities enhance the impact of VRIN resources on firm performance by enabling their effective use, thereby strengthening competitive advantage. According to Helfat and Peteraf (2003, 1008), the so-called *dynamic resource-based view* of the firm emphasizes that resources and capabilities evolve over time. Consequently, explaining sustained competitive advantage requires understanding how these resources and capabilities are

developed and renewed. In today's digital world, digital resources may enable the creation and retention of a competitive advantage. However, sustaining it requires underlying resources that provide the dynamic capabilities necessary for innovation and the continuous development of these digital resources. Thus, competition among firms providing digital products and services cannot rely on digital resources alone. (Cuthbertson & Furseth 2022, 174–175.)

Taken together, the literature reviewed in this study does not unambiguously determine which specific competencies will be required in the future. Instead, it highlights the underlying mechanism through which competencies emerge, gain strategic value and are continuously reconfigured through the interplay of organizational resources, knowledge and dynamic capabilities in changing environments. The theoretical framework proposed in this study integrates these perspectives, providing an analytical lens through which future competence needs can be examined empirically.

3 Methodology

3.1 Research approach

This study follows an interpretivist research philosophy. Interpretivism, together with constructionism, is concerned with understanding subjective and shared meanings. These philosophical positions emphasize how individuals and groups interpret and make sense of social events and contexts. (Eriksson & Kovalainen 2016, 20.) A constructionist perspective seeks to capture diverse understandings and multiple realities related to how individuals define and experience situations (Patton 2015, 122). As this study focuses on how future competence needs are interpreted and constructed by organizational actors through their experiences and perspectives, this study is also informed by social constructionism. Social constructionism aims to explain how phenomena often perceived as subjective, such as industries, organizations and technologies, are shaped by individuals' subjective meanings and by intersubjective processes (Eriksson & Kovalainen 2016, 20).

The choice of the research method should be appropriate for answering the research questions of the study (Patton 2015; Eriksson & Kovalainen 2016; Silverman 2022). As the main research question of this study concerns what kind of competencies companies need to strengthen and sustain their competitiveness in international markets in the future, a qualitative research approach is adopted. Qualitative research is often defined in relation to quantitative research, which dominates much of the social sciences, including business research. Given the exploratory nature of the research subject, a qualitative research approach is appropriate as the aim is to gain a comprehensive understanding of a phenomenon rather than measure it quantitatively. (Eriksson & Kovalainen 2016, 4–5.)

As qualitative research aims to explore and interpret how meanings are constructed and understood (Patton 2015; Eriksson & Kovalainen 2016), the data collection and analysis consider the social and cultural context in order to develop a holistic understanding of the research topic (Eriksson & Kovalainen 2016, 4). To understand how systems function and what outcomes they produce, a careful consideration of the context is required. Context encompasses the broader environment and conditions surrounding the people, groups, organizations, or systems under study. (Patton 2015, 8.) In this study, future competence needs are examined within the context of large Finnish companies, where organizational, technological and wider environmental factors influence future competence needs. As both the purpose of the research and the research approach should guide the data collection (Eriksson & Kovalainen 2016, 81), the following section describes the data collection of the study.

3.2 Data collection

In qualitative research, various types of interviews are the most commonly used method for data collection, and the purpose is to collect data that will enable credible conclusions to be drawn from the phenomenon under study (Puusa 2011, 73). Qualitative interviewing rests on the assumption that participants' perspectives are both meaningful and knowable and that they can be systematically explored and made explicit. Interviews enable the examination of participants' perspectives and meanings concerning phenomena that cannot be directly observed. (Patton 2015, 426.) Given the exploratory nature of the research subject, a semi-structured interview was selected as the primary source of empirical data. This approach allows the review of predetermined themes but also allows room for flexibility. Thus, a key strength of semi-structured interviews lies in the material that is reasonably consistent and wide-ranging, while still allowing the interaction to remain natural, open and conversational. (Eriksson & Kovalainen 2016, 94–95.)

Qualitative interviews should be structured around the topic and research questions of the study (Eriksson & Kovalainen 2016, 91), but the research questions should not be asked directly (Silverman 2022, 321). Consequently, the formulation of the interview questions in this study was guided by the operationalization of the research question, as shown in Table 1. Through this operationalization, the research questions were connected to the theoretical background and translated into interview themes. The first sub-question examined the present state of competencies as a resource in Finnish companies. The second sub-question, in turn, focused on analyzing future competence needs required to sustain competitiveness in international markets. Together, these two sub-questions address the main research question of how competencies as a resource support the international competitiveness of large Finnish companies.

Table 1 Operationalization table

Research question	Sub-questions	Theoretical background	Interview themes
What kind of competencies companies need to strengthen and sustain their competitiveness in international markets in the future?	How do companies evaluate their current competencies?	Resource-based view of the firm	Defining current competencies
		Knowledge-based view of the firm	Identifying existing competence gaps and challenges
	How companies envision their future competence needs?	Dynamic capabilities	Identifying future competencies
			Understanding competence development strategies

The interview guide of this study, consisting of 13 interview questions (Appendix 1; Appendix 2), was developed to explore future competence needs of large Finnish companies, and a set of open-ended qualitative questions was used to investigate participants' perspectives. The questions focused on the present state of competencies as a resource in Finnish companies, as well as on analyzing the future competence needs to sustain competitiveness in international markets. Last, the participants were asked to reflect on the risk associated with failing to secure necessary competencies and to evaluate the role of the Finnish context in competence development.

One key methodological advantage of qualitative interviews lies in the ability to purposefully and on a discretionary basis select participants who possess relevant experience or knowledge of the phenomenon under study (Puusa 2011, 76). This purposive selection ensures that the interviewees are selected based on their relevance to the study, rather than solely on, for example, accessibility (Silverman 2022, 293). The empirical data of this study consists of nine semi-structured interviews with carefully selected company representatives and experts possessing relevant insights and experience related to the research topic. The participants were selected using purposive selection to ensure relevant expertise and experience related to the research topic, including both company representatives and experts.

In selecting company representatives, both the suitability of the organization for the research topic and the position of the interviewee were considered. All the selected companies in this study are classified as large undertakings measured by the number of employees and either annual turnover or balance sheet total. The selected companies represent both knowledge-intensive and technology-oriented industries that operate in rapidly changing circumstances. All of the companies operate primarily or entirely in business-to-business (B2B) markets, and their offerings include complex industrial products, systems and digital expert services delivered to clients. The information is based on publicly available data. Although there are similar characteristics between the companies, industrial variation was considered as an important factor in order to identify broad competence needs rather than industry-specific skills. Generalized details of the company representatives and interview details are presented in Table 2.

Table 2 Interview summary

Company	Industry	Number of employees	Revenue, in millions (€)	Interviewee 's area of expertise	Interview date	Interview duration	Interview language
A	Technology	1000+	200 +	Strategic leadership	4.12.2025	35 min	Finnish
B	Technology	10 000+	5000 +	Global learning & leadership	16.1.2026	44 min	Finnish
C	Applications and software	1000+	150 +	Recruitment & employee branding	23.1.2026	36 min	Finnish
D	Information technology (IT)	250+	100+ (total assets)	Talent acquisition	26.1.2026	40 min	English
E	Technology	10 000+	4000 +	Global talent acquisition	6.2.2026	40 min	Finnish

Alongside the company representative interviews, the data collection extends to external experts to incorporate a broader labor-market perspective on the future competence needs of Finnish companies. While company representatives provide practical and organization-specific perspectives, experts draw on informed insights across multiple firms and industries, thereby complementing company representatives' perspectives. Details of expert interviews are summarized in Table 3.

Table 3 Expert interview summary

Expert	Industry / organization	Title	Interview date	Interview duration	Language
1	Recruitment	Headhunter	22.11.2025	35 min	Finnish
2	Research services	Specialist	21.1.2026	37 min	Finnish
3	Consulting	Senior management consultant	12.2.2026	58 min	Finnish
4	Ministry of Economic Affairs and Employment of Finland	Undersecretary	13.2.2026	45 min	Finnish

In addition to the interview guide, each participant was provided with a description of the study, a pre-filled consent form and a privacy notice well in advance of their participation. The interviews were conducted remotely via Zoom between December 2025 and February 2026 in both Finnish and

English. All of the interviews were audio-recorded with the participants' consent, which was confirmed at the beginning of each interview.

During the interviews, visual elicitation was used to support participants' reflection on the topic. According to Crilly et al. (2006, 341), visual elicitation materials are used in interviews to support discussion when verbal explanation alone is insufficient. These visual representations facilitate thinking and function as interview stimulus materials. In principle, any material that can be visualized may be used in the elicitation process (Gubrium & Holstein 2001, 510). However, as Crilly et al. (2006, 360) note, careful consideration is required regarding the timing of introducing visual stimuli into interviews. Presenting such material at the outset may help clarify the focus of the research and provide a basis for the discussion. It might, however, also bias participants' responses and influence the data collected. Therefore, visual material should be introduced after the initial discussion to allow participants' perspectives to emerge independently. Approximately halfway through the interview, each participant was shown a visual summary (Appendix 3) of previously identified broad competence needs to prompt discussion on how these align with their professional perspectives and to identify additional emerging competencies. The visual summary was compiled by the researcher based on the results of the National Forum for Skills Anticipation (see Finnish National Agency for Education 2019). From the results, those related to digital skills and the fastest-growing areas were selected for the figure, as they were considered most relevant for the purpose of this study.

After the data collection phase was completed, the next step of the research process was to analyze the empirical data. Although the interview material was already reviewed and reflected upon during the data collection, the systematic analysis began only after all interviews had been conducted. The following section presents the data analysis of this study.

3.3 Data analysis

The aim with qualitative analysis is to generate an accurate and comprehensive description that captures the overall picture of the phenomenon under study (Eriksson & Kovalainen 2016, 119) and through qualitative analysis, data is transformed into findings (Patton 2015, 521). For the data analysis, this study mostly adopts the Gioia methodology (Gioia et al. 2013). The method is built on the assumptions that organizational realities are socially constructed and that organizational members are knowable agents, which positions the researcher in the early stages of the analysis to prioritize accurately representing informants' own interpretations (Gioia et al. 2013, 17). Like all theoretical models, the Gioia methodology seeks to capture complex organizational phenomena through simplified conceptual representations (Magnani & Gioia 2023, 8). The data analysis follows an

inductive approach, progressing from empirical observations to theoretical insights (Patton 2015; Eriksson & Kovalainen 2016). An inductive approach enables the development of new concepts grounded in empirical data. The approach is particularly suitable for capturing organizational phenomena from the perspective of the participants while simultaneously enabling the construction of theoretically meaningful interpretations. (see Gioia et al. 2013, 16.)

As the interviews were audio-recorded, the first step of the data analysis was to transcribe the recordings into text files using a transcription service provided by the University of Turku. After transcription, each text file was carefully read through and refined to enhance readability, for example, by removing unnecessary elements, such as filler words. The text files were also structured according to the themes outlined in the interview guide to support the next steps of the analysis.

Next, the structured interview data were analyzed by using NVivo qualitative data analysis software. The analysis began with a systematic first-order coding process following the Gioia methodology (Gioia et al. 2013). The interview transcripts were carefully reviewed to identify meaningful categories. As the aim of the first stage is to remain as close to the interviewees' original expressions as possible (Gioia et al. 2013, 20), these categories were coded into first-order concepts using the interviewees' original expressions as accurately as possible. In this stage, only limited category reduction is carried out, resulting in approximately 100 categories at this stage of the analysis (Gioia et al. 2013, 20). As the analysis generated nearly 200 first-order concepts, artificial intelligence was used to identify overlapping or similar codes (see Appendix 4), resulting in the identification of 106 first-order concepts. During the first stage, new interview data were continuously compared with existing first-order concepts. Following Glaser and Strauss's (2017, 60) principle of theoretical saturation, the analysis continued until interviews no longer generated new first-order concepts but instead validated the existing coding structure.

In the second stage of the analysis, similarities and differences between first-order concepts are identified, and the number of relevant categories is reduced to a more manageable number (Gioia et al. 2013, 20). At this stage, the first-order concepts were exported from NVivo to Excel to enable a more systematic comparison and identification of similarities across the data. In the second-order analysis, more attention is paid to the theoretical level, where the emerging themes are examined to determine whether they can be developed into concepts that help explain the observed phenomena (Gioia et al. 2013, 20). Thus, the generation of second-order themes and aggregate dimensions involves systematically sorting, reducing and aggregating first-order codes into increasingly abstract categories while integrating existing theory with empirical findings (Magnani & Gioia 2023, 3). The

first-order concepts were carefully reviewed after which similar concepts were merged into broader thematic groups, resulting altogether eight second-order themes.

Finally, the second-order themes are further distilled into so-called aggregate dimensions (Gioia et al. 2013, 20). The final stage resulted altogether three aggregate dimensions that conceptualize the phenomenon under study. Aggregate dimensions are constructed to capture the structure of the findings, representing the drivers shaping future competence needs, the conceptualization of future competencies and the organizational responses related to competence development. Figure 5 represents the final data structure.

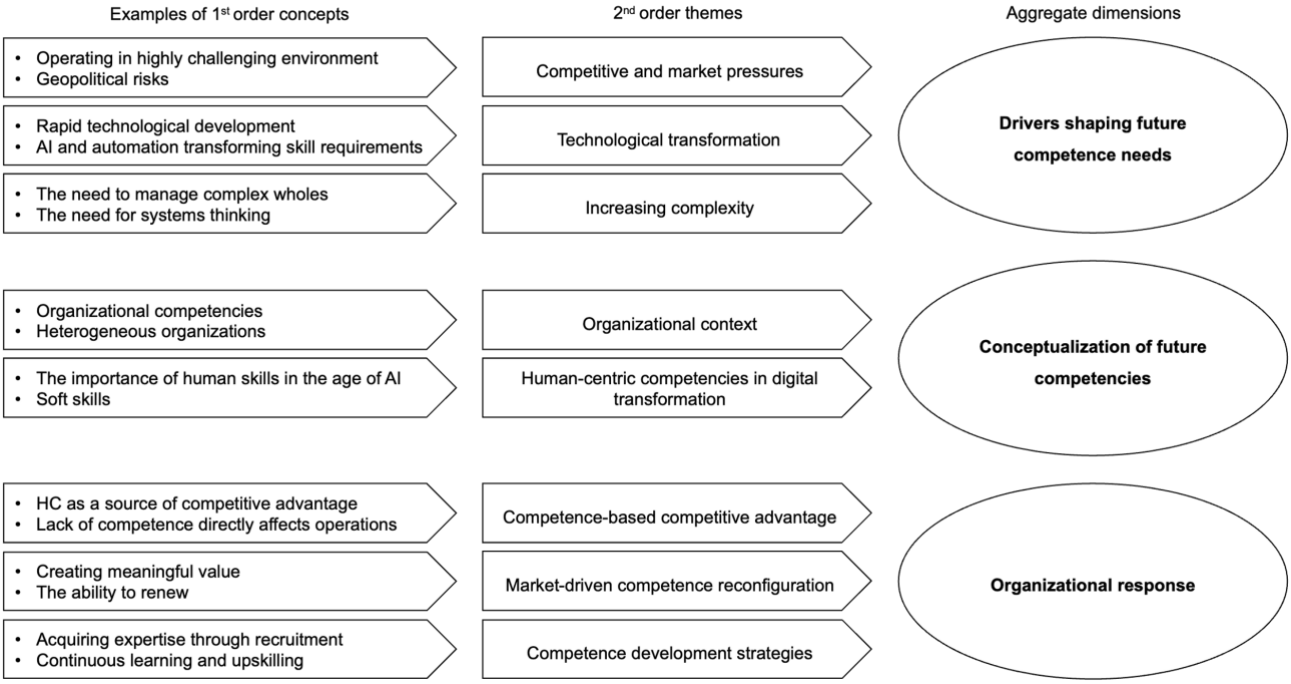

Figure 5 Data structure

The data structure not only allows the data to be organized into a clear visual format but also illustrates how progression is made from raw data to the identification of terms and themes during the analysis (Gioia et al. 2013, 20). Having outlined the data analysis, the following section evaluates the research quality.

3.4 Evaluating research quality

3.4.1 Trustworthiness of the study

Evaluating the trustworthiness of the study is an essential part of good research practice (Aaltio & Puusa 2011, 153). The trustworthiness of this study is evaluated by using Lincoln and Guba's (1985)

four-factor framework, comprising 1) credibility, 2) transferability, 3) dependability and 4) confirmability. Lincoln and Guba (1985, 290) define trustworthiness as demonstrating that the findings of a study are both credible and serious. The criteria reflect the goodness of a study (Eriksson & Kovalainen 2016, 308).

By *credibility,* Lincoln and Guba (1985, 296) refer to producing truthful findings. The interpretations constructed in the study should accurately reflect the participants' own understanding of reality, rather than solely the personal interpretations of the researcher (Tynjälä 1991, 390). Credibility is further divided into three subcategories based on activities that enhance the likelihood of producing trustworthy findings (Lincoln & Guba 1985, 301).

First, *prolonged engagement* refers to spending sufficient time in the setting to gain an understanding of the context. The purpose of prolonged engagement is to make the researcher open to the many interacting influences and contextual factors that shape the situation being studied (Lincoln & Guba 1985, 301–304). A careful and comprehensive theoretical understanding of the phenomenon under study from multiple perspectives provides an important foundation for assessing the trustworthiness of the study (Aaltio & Puusa 2011, 159). In this study, a comprehensive review of the literature is conducted to deepen the understanding of the context. Also, the key concepts have been carefully compiled and explained to ensure comprehensibility and avoid overlapping interpretations. The operationalization table ensures that the research questions, theoretical background and data collection are consistently connected. Also, the conduction of nine interviews offered general insight into the research topic.

Second, *persistent observation* aims to identify the aspects of the situation that are most relevant to the issue being studied and examine those elements in depth (Lincoln & Guba 1985, 304–305). Persistent observation is operationalized in this study by engaging with the most significant parts of the phenomenon until deep and trustworthy insights are obtained. This was achieved through repeated engagement with the interview transcripts during the coding and analysis process, enabling the identification of key patterns.

The third activity, *triangulation*, increases the likelihood that the findings and interpretations will be judged credible by using multiple sources, methods, investigators and theories (Lincoln & Guba 1985, 305). Theory triangulation draws on multiple theories to explain, understand and interpret the case (Eriksson & Kovalainen 2016, 306). In this study, multiple theories, including resource-based view, knowledge-based view and dynamic capabilities approach, are applied to interpret the same data to explain the observed patterns. Additionally, collecting multiple sources of data on the same research

phenomenon strengthens the trustworthiness of the study by enabling comparison of findings through triangulation (Aaltio & Puusa 2011, 160). In this study, representatives from several organizations across different industries were interviewed, which enables a comparison of perspectives.

Next, *transferability* reflects the extent to which the findings of a study may be applicable in another context (Lincoln & Guba 1985, 297–298). The researcher must provide a sufficiently detailed description of the data and the study to enable readers to evaluate the applicability of the findings to other contexts (Tynjälä 1991; Eriksson & Kovalainen 2016). Thus, transparent analysis and interpretation of the findings support transferability and strengthen the trustworthiness of the study (Aaltio & Puusa 2011, 156). In this study, transferability was enhanced by outlining the research context, including information on the participant organizations, experts and the overall interview process, thereby providing sufficient detail to enable an assessment of the findings' applicability to other settings.

Dependability, in turn, concerns the researcher's responsibility to ensure transparency of the research process (Lincoln & Guba 1985, 316–318), providing sufficient information for the reader to evaluate whether the research process has been logical (Eriksson & Kovalainen 2016, 307). Research decisions and interpretations, such as methodological choices, should therefore be clearly justified and critically examined (Aaltio & Puusa 2011, 154, 158–159). In this study, dependability was addressed by documenting the research process in a detailed and transparent manner, including the data collection procedures, interview structure and the steps of the qualitative analysis.

Finally, *confirmability* reflects the neutrality of the study and concerns ensuring that the interpretations are grounded in the empirical data (Lincoln & Guba 1985, 300, 323) rather than the researcher's subjective assumptions (Eriksson & Kovalainen 2016, 308). Thus, confirmability concerns the extent to which the truth value of the research can be ensured (Tynjälä 1991, 392). In this study, confirmability was strengthened by ensuring that the findings were grounded in the interview data and by presenting direct quotations from participants to demonstrate the connection between the empirical data and the resulting interpretations. Table 4 summarizes the evaluation criteria.

Table 4 Evaluation criteria (see Lincoln & Guba 1985)

Criteria		Definition and purpose	How applied in this study?
Credibility	Prolonged engagement	Understanding the context	Comprehensive literature review, defining key concepts, operationalization table, nine interviews
	Persistent observation	Focusing on the most important aspects to gain deeper understanding	Repeated engagement with the interview transcripts
	Triangulation	The usage of multiple sources or methods to check and confirm the findings	Theory triangulation, data triangulation
Transferability		Providing a rich context for a reader to assess whether the findings may be applicable in another context	Providing a detailed description of the research context
Dependability		Keeping a clear record of how the study was carried out so others can follow the process	Providing a detailed and transparent description of the research process
Confirmability		The study being grounded in the data	Direct quotations from participants

Alongside considerations of methodological quality, research quality also encompasses ethical reflection and disclosure. All scientific traditions include ethical standards and compliance with these standards should be explicitly addressed (Patton 2015, 679). Accordingly, the following section examines the ethical considerations underpinning this research.

3.4.2 Ethical consideration of the research

Whenever conducting research, ethical issues are present (Orb et al. 2001, 93). Research ethics concerns the conduct and reporting of all research activities. In qualitative business research, ethical considerations are typically limited to interview-based data collection. (Eriksson & Kovalainen 2016, 63–65.) This study follows the *Finnish Code of Conduct for Research Integrity* (2023) by the Finnish National Board on Research Integrity (TENK).

Protecting the participants is a central principle across all ethical guidelines (Eriksson & Kovalainen 2016, 71), and it was also the primary ethical focus of this study. The researcher should also carefully consider ethical issues that might arise during the study, including informed consent and confidentiality (Orb et al. 2001, 94). The participants were provided with all necessary information, including a description of the study, a consent form, a privacy notice and an interview guide well in

advance of their participation. Also, participation in the research must be voluntary, and participants are free to withdraw from the research at any time (Eriksson & Kovalainen 2016; Silverman 2022), which was clearly and explicitly stated in both the description of the study and the consent form. In order to avoid collecting and storing additional personal data, participants were provided with a pre-filled consent form. Each participant gave their verbal consent to participate voluntarily in the study at the beginning of the interview. Alongside voluntary participation, protecting the anonymity of individuals taking part in the research should be maintained throughout the research process (Eriksson & Kovalainen 2016, 74). During each interview, the participants were discussed with on how they would be referred to in the study (e.g., title, organization and other relevant details), and an appropriate form of relevance was agreed upon together. In this study, anonymization was ensured by referring to the participant only through a code and by describing the other details in broad terms, unless otherwise agreed.

The ethical considerations of this study were guided by the EU General Data Protection Regulation (GDPR, 2016/679), ensuring lawful, transparent and secure handling of personal data. The participants were provided with a GDPR-compliant privacy notice, and a data management plan was prepared to govern the storage and handling of personal data. All personal data and other sensitive data were stored in a password-protected cloud service provided by the University of Turku.

In accordance with the guidelines of the University of Turku and Turku School of Economics, generative artificial intelligence (AI) was used as a support tool in the writing of this thesis. A more detailed declaration of the use of AI in this study is provided in Appendix 4.

4 Findings

4.1 Drivers shaping future competence needs

4.1.1 Competitive and market pressures

The interviews indicate that organizations across industries are facing increasing external pressures that significantly shape their future competence needs. According to Expert 3, organizations must increasingly respond to a range of emerging external challenges. These, according to Expert 3, include broad environmental and global developments that shape operating conditions and influence organizational requirements. Expert 3 emphasized that across industries, companies must anticipate these changes and adjust their operations accordingly. Expert 1 emphasized that Finnish companies must carefully assess which emerging megatrends, such as climate change mitigation, urbanization, safeguarding food production, the rise of health technologies and the defense industry, will create the greatest impact and potential business opportunities:

> *Finnish companies may have valuable contributions to offer in these areas in the future. (Expert 1)* [3]

Other interviewees reinforced these views by highlighting especially the role of geopolitical developments in intensifying external pressures on companies. In the industry where Company B operates, geopolitical tensions have a significant impact on various operations, such as supply chains. According to the interviewee from Company B, the link between these tensions and competencies remains unclear:

> *... does it [geopolitical tensions] mean something in terms of competence, we are not yet entirely sure about that.* (Company B)

The interviews also highlighted the growing influence of China in the emerging global order. For instance, Company A has responded to these shifts by reassessing its product structures, a process that necessitates the development of new types of competencies.

The interviewees noted that political decisions and global instability disrupt business operations more frequently, increasing the need for organizational adaptability and flexibility. The interviewee from Company C viewed competitiveness as adaptability. According to Expert 3, the only common factor among companies across industries in Finland that seek to remain competitive is the ability to adapt:

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3 As shown in Table 2 and Table 3, the majority of the interviews were conducted in Finnish. Thus, most quotations presented in this study are the author's own translations from Finnish to English.

> *I am not sure whether it is a competence or something more structural, but when the world comes crashing down, how quickly and agilely can we respond?* (Expert 3)

Expert 3 continued adding that Finland's challenging geopolitical position forces companies to be inventive and develop creative solutions, for example, to ensure that logistics function effectively. According to Expert 3, this innovation-centric perspective has become one of the key competencies enabling Finnish companies to operate successfully in complex international environments. Driven by geopolitical challenges and broader environmental pressures, the interviews suggest that uncertainty has become a structural feature of today's business environment rather than a temporary disturbance.

The emerging need for competencies related to responsibility, sustainable development and other emerging regulation were highlighted across the interviews. Both the interviewee from Company B and the interviewee from Company C identified sustainability as one of the most important factors influencing their companies' future competence needs. In Company B, key sustainable solutions and innovations are already among the most critical *firm-level competencies* the company currently relies on. When reflecting on the graph shown during the interview, the interviewee from Company B highlighted that in the next five to ten years, sustainability-related competencies will become increasingly important for success and should therefore be considered as critical competencies. Similarly, the interviewee from Company E emphasized sustainability and corporate responsibility as *core competencies* that differentiate the company from its competitors, while also highlighting them as critical competencies for the future. The interviewee from Company E also emphasized the growing importance of circular economy competence, particularly in relation to resource use, life cycle management and regulatory requirements:

> *As global demand for raw materials grows, the ability to develop innovative and responsive solutions becomes essential.* (Company E)

Both Expert 2 and Expert 3 similarly emphasized the growing need for expertise in these areas. According to Expert 3, organizations increasingly seek competence in sustainability-related domains and hire sustainability specialists to take responsibility for ESG (Environmental, Social and Governance) reporting and carbon footprint calculations. However, Expert 3 noted that, for example, global warming is affecting all organizations and corporate responsibility and sustainability represent only one dimension of a much broader challenge. According to Expert 3, there is a growing need for competence that enables companies to approach sustainability from a strategic and value-creating perspective:

> *… it [sustainability] comes down to how capable the management is of understanding whether this is merely a forced obligation or something from which we [the company] can genuinely benefit while also creating meaningful and positive impact for society.* (Expert 3)

Expert 4 pointed out that Finnish companies have been among the forerunners in advancing green transition and many companies have committed early to carbon neutrality and promoting low-carbon production processes. According to Expert 4, large companies, in particular, are driving this shift by monitoring their carbon footprints and handprints, and by requiring cleaner practices from their subcontractors. Expert 4 added that the green transition is a future-oriented strategic direction that remains aligned with long-term business profitability and requires broad competence. The interviewee from Company B expressed a similar view, as in the industry where the company operates, green transition is considered a key strategic focus that requires a wide range of skills:

> *It is not only about developing new solutions, but also about how they are maintained and supported over time. As technologies evolve and systems become more complex, this creates new competence requirements, particularly within support and service operations.* (Company B)

In addition to the competitive and market pressures, rapid technological transformation was consistently identified across the interviews as a key factor shaping the future competence needs of companies across industries.

4.1.2 Technological transformation

Technological transformation is already fundamentally redefining companies' competence needs. According to Expert 2, growth is driven by technological capabilities, and organizations continuously seek related expertise, as basic digital skills have become a requirement. According to the interviewee from Company B, inimitable high technology solutions are one of the company's main sources of competitive advantage in international markets. Thus, technological capability is one of the most important areas of expertise on which the Company B relies. In Company C, digital competence and artificial intelligence-related skills have become a basic requirement for all employees:

> *To perform daily tasks, basic digital skills are essential. There is no role in which one can manage without them.* (Company C)

Having reviewed the pre-identified competence needs illustrated in the graph shown during the interview, the interviewee from Company D noted that they had not even considered basic digital skills, as these are taken for granted within the company.

Both the interviewee from Company C and the interviewee from Company E were concerned about the challenge of keeping pace with rapid technological change, which demands ongoing upskilling across the workforce. According to the interviewee from Company C, the utilization of artificial intelligence can be continuously improved, and they are continuously sensing and seizing artificial intelligence developments:

> *... we are constantly looking for new ways to bring it [artificial intelligence] into various tasks. (Company C)*

Company B increasingly integrates physical products with advanced digital solutions. Technological capability is viewed as one of the company's *core competencies*, and practices such as continuous improvement and agile working methods are now supported by digital systems.

Among digital technologies, artificial intelligence was seen as a key driver of future competence needs. In Company B, artificial intelligence was seen both as a cross-cutting competence embedded across roles and as a specialized skill set requiring dedicated development. Both the interviewee from Company C and the interviewee from Company E similarly described artificial intelligence as a cross-cutting competence that enhances productivity and enables new ways of working. At Company E, artificial intelligence has been established as a dedicated organizational function, underscoring its organization-wide significance. The interviewee from Company B noted that looking five to ten years ahead, the most critical competencies will relate to digitalization and the role of electronics and software. As technological transformation shapes the operations of Company B, novel competence is required:

> *In a way, the nature of work changes quite a lot as it's no longer entirely about being there on-site with the equipment. Instead, it also involves thinking about how our customers' operating environments are changing and more things can be done remotely.* (Company B)

Similarly, the interviewee from Company E considered technological development to be one of the most significant factors affecting the company's *core competencies* over the next five to ten years. The interviewee from Company E highlighted the growing importance of competencies related to data analytics, automation, artificial intelligence and digital innovation.

However, several interviewees noted that technological transformation is likely to reduce the demand for some existing competencies and thereby shape the future competence needs. According to Expert 4, as all employees are now expected to have basic digital skills, more advanced skills, such as programming, are increasingly seen as areas where technology is likely to outperform humans. The interviewee from Company D noted that while programming is unlikely to disappear completely, it

will be reshaped by accessible development tools, such as AI-based coding platform Lovable, which enables non-specialists to build applications and websites. The interviewee from Company D viewed this as a positive and lasting trend but noted that it may diminish the demand for traditional technological expertise.

Both Expert 2 and Expert 4 noted that although technological transformation acts as a central driver of future growth in Finnish companies, its impact ultimately depends on organizations' ability to utilize it effectively. According to the experts, the real productivity gains from digital technologies and especially from artificial intelligence will only be realized once organizations learn to harness the potential, as the value lies in what these technologies enable rather than in the technology itself:

> *...growth is based on technological renewal and, in a way, on the ability to develop and leverage those technologies.* (Expert 2)

Expert 2 further emphasized that although Finnish companies already possess strong expertise in emerging technologies, such as artificial intelligence and quantum technologies, companies need additional competence to manage and understand the broader technological landscape as the fields continue to evolve. The interviews indicate that the key competence requirement, therefore, extends beyond technical expertise to include the ability to understand, integrate, and apply emerging technologies. This, among other developments, points toward a growing complexity in the operating environment.

4.1.3 Increasing complexity

As environments shift and digital technologies continue to evolve rapidly, the cognitive demands of work are increasing significantly. Across the interviews, both company representatives and experts emphasized that future competence needs are shaped not only by technical skills but also by the ability to handle complexity and think systematically. Expert 2 noted that while deep expertise will remain important in the future, employees will increasingly need systems thinking and the ability to manage larger and more complex wholes than before.

The interviewee from Company B noted that as the company operates with large and multidimensional projects, systems thinking is already essential for project management, and it will become even more critical in the future. Similarly, the interviewee from Company E also stressed that project management skills are expected from all employees, reflecting the shift toward more complex workflow. After reviewing the graph shown during the interview, the interviewee from Company C recognized many of the pre-identified skills as essential for managing complexity. The

interviewee further emphasized that, as the work in Company C is highly independent, it further heightens the need for systemic thinking in daily decision-making within today's complex and hectic environment. Similarly, problem-solving skills were repeatedly identified as fundamental cognitive competence across the interviews. The interviewee from Company D described that the entire industry is based on demanding and continuous problem-solving, yet the interviewee stressed that this is not firm-specific but rather a *general competence*, widely required across all organizations.

The interviews also highlighted the importance of holistic management, which, according to the interviewees, combines systemic thinking, problem solving and the ability to connect different functions or viewpoints, making it a valuable *firm-specific competence*. The interviewee from Company A noted that holistic management often develops through exposure to diverse roles or departments, helping employees understand how an organization operates as an integrated whole. The interviewee from Company A further expressed concern that increasing specialization may lead to compartmentalization, limiting employees' broader organizational understanding. Similarly, the interviewee from Company C described holism as the ability to view issues from multiple angles, while the interviewee from Company E saw it as a competence that combines analytical thinking, creativity and innovation:

> *Holistic management is tied to problem-solving skills. It means being able to examine things from multiple perspectives and finding solutions. In some way, it is also linked to innovation and creativity.* (Company E)

Expert 3 supported this perspective by noting that Finnish companies tend to perform relatively well in holistic and logical-analytical thinking, particularly in understanding end-to-end processes, a competency Expert 3 viewed increasingly critical in complex organizational environments.

4.2 Conceptualization of future competencies

4.2.1 Organizational context

Across the interviews, the role of organizational context was emphasized in conceptualizing competencies. The interviewees viewed competence not only as emerging from individual attributes but also as a collective, organizational capability. In Company B, competency development was seen from the perspective of both the individual and the organization as a whole, while acknowledging the interconnection. The interviewee from Company B further emphasized that while competencies manifest at the individual level, they are ultimately understood as firm-level capabilities.

From a broader organizational perspective, Expert 2 described competence as a collective phenomenon embedded in, for example, culture, leadership, processes and other organizational practices. Similarly, Expert 3 viewed competency as a firm-level combination of different attributes. As a consultant, Expert 3 has focused on helping companies to understand not just what kind of skills they need, but also what kind of competencies or capabilities they need to build within their organization to maintain competitiveness:

> *In those discussions, what has been essential are of course, the people who possess the relevant experience – expertise that ideally remains up to date and continues to evolve. However, it also involves flexibility embedded in organizational structures, as well as leveraging the opportunities of digitalization to maximize the use of these competencies.* (Expert 3)

Several interviewees highlighted the strategic responsibility of executives, and leadership was seen as one of the most important organizational factors influencing future competence development. Both Expert 1 and Expert 4 emphasized that leadership plays a central role not only in developing people but also in ensuring that organizations possess the competencies required for future success. In Company B, leadership was seen as a central competence and a crucial mechanism for strategy implementation. Leadership development is conducted systematically across Company B, applied to both formal managers and employees in matrix roles. In Company C, increasing attention is paid to ensuring that executives remain aligned and are thus able to lead effectively. Similarly, the interviewee from Company E described a shift in which competence development, recruitment and related workforce issues are no longer viewed as isolated human resources (HR) functions but as a central part of business strategy and maintaining competitiveness. The interviewee from Company E also emphasized that responding to this shift requires not only HR efforts but broader organizational support and active involvement of top management. The interviewee from Company C also stressed that although leadership has always been important, its significance is particularly evident in these times. Both the interviewee from Company C and the interviewee from Company E further emphasized that organizations need to support leaders appropriately, particularly in such challenging times.

Although leadership capability was seen as a strategic organizational competence, Expert 2 noted that Finnish companies sometimes lack strong strategic leadership. Expert 3 similarly stressed that Finnish companies lack leadership courage. According to Expert 3, Finnish companies struggle to keep up with turbulent markets unless leaders are willing to take bold moves, including internationalization and strategic renewal:

…when leadership lacks courage, people hesitate to take action. (Expert 3)

For internationally operating companies, fostering diverse and heterogeneous organizational environments, alongside a supportive culture, was considered a key factor in addressing future competence needs. Both Expert 2 and Expert 4 stressed the growing need for diverse educational, cultural and linguistic backgrounds to broaden perspectives and enhance problem-solving in Finnish companies. Expert 2 emphasized that competence should be understood in a broader sense, where diversity in cultural and educational backgrounds and language skills can foster innovation by increasing perspective diversity and strengthening intercultural understanding.

Both the interviewee from Company C and Expert 4 also highlighted the importance of diversity and heterogeneity for organizational success. The interviewee from Company C observed that with new generations entering the workforce, diversity within teams has increased. This, in turn have improved the company's ability to design services for a broad range of users. According to Expert 4, executives should actively support and promote diverse teams. Diversity in terms of age and background was seen as an important factor facilitating innovation and enabling organizations to continuously renew themselves. Expert 4 also noted that the rigidity of large companies may also be reflected in recruitment practices, where candidates similar to existing employees are often preferred. As a result, work communities may become more homogenous and the ability to renew suffers:

> *Homogeneous work communities tend to limit the diversity of ideas. When people are very similar to each other, the perspectives and innovations that emerge are limited.* (Expert 4)

Beyond the organizational context, the findings further emphasize the importance of human-centric competencies. While organizational context was seen as providing the foundation for sustaining competitiveness, the realization of this potential was ultimately seen as depending on individual-level competencies and especially human-centric competencies in technological transformation.

4.2.2 Human-centric competencies in technological transformation

Although digital technologies are reshaping competence requirements, the interviews highlighted the continued importance of human-centric competencies in technological transformation. Several interviewees emphasized especially the importance of human and interpersonal skills in the age of artificial intelligence. In Company C, digitalization is approached from a human-centered perspective, and it does not occur automatically without the involvement of people. Both the interviewee from Company C and Expert 2 noted that, despite the rapid advancements of artificial intelligence, decision-making should remain human-driven. As the figure shown during the

interviews highlighted technological skills, both Expert 1 and Expert 2 noted that human-centric skills should remain critical, both now and in the future:

> *A good rule of thumb is that people will continue to prefer interacting with other people rather than machines or artificial intelligence.* (Expert 1)

Across the interviews, competence was conceptualized as comprising both hard skills and soft skills. Hard skills, described by Expert 1 as learned and academic, were viewed as necessary for task performance. Both the interviewee from Company D and the interviewee from Company E emphasized the importance of developing hard skills so that an individual can succeed at work. However, soft skills as microfoundations were considered equally important in today's environment. Soft skills were identified as an important factor in being able to leverage technical expertise. For example, the interviewee from Company A emphasized the mental dimension of competence, while acknowledging that both hard and soft skills are needed together:

> *You can earn a degree in management, but without a genuine interest in people, becoming a good leader is difficult.* (Company A)

Expert 2 emphasized that, in the context of digital transformation, competitiveness extends beyond technical capabilities to include soft skills such as the ability to operate under uncertainty, engage in creative thinking, build trust and create meaningful value. According to the interviewee from Company D, the company's *core competencies* are increasingly centered on the ability to function effectively in a fast-moving environment. The interviewee from Company D highlighted qualities such as agility, adaptability, resilience and curiosity as increasingly important for individual success and thus long-term organizational competitiveness.

The interviewee from Company A noted that soft skills, particularly emotional intelligence, were entirely absent from the figure shown during the interview. According to the interviewee from Company A, emotional intelligence is important in relation to how individuals interact and get along with others. Expert 1 further emphasized the importance of social skills and pointed out that in recruitment, employers are constantly looking for employees who get along well with others and fit into the work community.

Across the interviews, the ability to collaborate emerged as one of the most important soft skills today. Expert 1 considered collaboration as a key skill that companies will need over the next five to ten years, noting that Finns are already relatively strong at collaboration and that these strengths should be utilized more effectively. Similarly, the interviewee from Company D viewed the ability to collaborate with close and trust-based teams as a key competence in the future:

> *My prediction is that working with people will become even more important… Work will likely take place in small, close-knit teams built on trust and strong, trust-based relationships are essential for effective collaboration.* (Company D)

According to Expert 4, one, perhaps more philosophical and profound soft skill whose importance is expected to become increasingly emphasized in the future is the ability to listen. Expert 4 described listening skills as highly valued by companies, as it supports adaptability, learning and the effective application of knowledge.

In addition to human and interpersonal skills, the interviewees recognized mental resilience and well-being as emerging concerns for firms operating in today's business environment. Both Expert 2 and the interviewee from Company D emphasized resilience as an important competence for the future. When reflecting on the relationship between competencies and firm performance, Expert 2 emphasized the importance of resilience. From an organizational perspective, Expert 2 viewed resilience as a key factor enabling work communities to remain adaptable and capable of navigating change:

> *… resilience is becoming an increasingly important consideration for organizations. In my view, it is important for work communities to remain adaptable and resilient in this time, as the current environment is quite challenging.* (Expert 2)

In addition to resilience, the interviewees also highlighted the growing importance of skills related to mental well-being. Expert 3 noted that as individuals are facing an increasing influx of information and other stimuli, managing mental health and work ability may become critical areas of organizational leadership in the upcoming years:

> *…it is likely that issues such as slowing down, well-being at work and taking care of mental health will become increasingly challenging in the future, as work itself is undergoing significant transformation.* (Expert 3)

Both the interviewee from Company C and the interviewee from Company D were similarly concerned about the emotional and cognitive strains caused by frequent change. The interviewee from Company C stressed that the emotional and cognitive strain caused by the sudden changes in the surrounding environment places pressure on employees and requires strong resilience from both now and in the future:

> *… topics related to brain health, recovery and these kinds of skills are becoming increasingly prominent, especially as the environment involves many large and sometimes demanding factors, including uncertainty and other pressures.* (Company C)

Expert 3 and the interviewee from Company D argued that the pace of change, especially in terms of technological developments, exceeds individuals' capacity to adapt. According to the interviewee from Company D, rapid technological advancements are expected to significantly reshape the industry in which Company D operates over the next five to ten years, raising concerns about the pace of change:

> *It's a very short span in which this technology is developing, while humankind has evolved over millions of years. Our brains are going to be really challenged by this pace.* (Company D)

Consequently, the interviewee from Company D predicted that digital detachment would become increasingly important due to constant availability and connectivity. The interviewee from Company D emphasized that continuous exposure to information can be overwhelming and that the human mind requires disconnection to support mental resilience and well-being.

However, the interviewees also noted that the Finnish context may support employee well-being. Interviewees highlighted factors such as strong emphasis on work-life balance and other broader societal structures, which may contribute to sustaining well-being in demanding work environments, even internationally. Both Expert 1 and the interviewee from Company D described work-life balance as a national advantage for Finland and a strong enabler in competence development.

Expert 4 suggested that, as a counterbalance to rapid technological changes, individuals increasingly value meaningful leisure and experiences that offset work demands, together with social engagement. Both the interviewee from Company C and the interviewee from Company D noted that ensuring sufficient recovery is not solely an individual responsibility, as it also requires active organizational support and leadership. Overall, the interviews highlighted the importance of maintaining individual well-being in a way that supports both work performance and organizational outcomes.

The interviewee from Company C noted that, for example, resilience and continuous adaptation to the changing operating environment require good self-awareness. The interviewee from Company C continued adding that good self-awareness underpins performance, noting that their employees' success is closely linked to how well they understand themselves and their expertise, as this is reflected in their confidence. Similarly, the interviewee from Company D framed self-awareness as the capacity to recognize personal limits, particularly knowing when to pause, rest and disengage, which was seen as essential for sustaining high performance.

When reflecting on the figure shown during the interviews, interviewees most prominently highlighted self-direction as one of the most important general competencies. The interviewee from

Company B viewed self-direction as proactive self-leadership. The interviewee from Company B continued noting that while self-leadership is not a new requirement, its significance has increased in today's environment:

> *... you can't just wait for someone to tell you what to do; you need to understand the situation yourself and lead yourself within it. Even when various influences and impulses arise, you still have to determine the direction in which to proceed.* (Company B)

In Company C, self-leadership is reflected, for example, in employees' ability to independently prioritize and manage their work. Employees in Company C must be able to identify where time can be freed up for higher-value activities, recognizing which tasks benefit most from human interaction and which can be streamlined through the use of technology.

4.3 Organizational response

4.3.1 Competence-based competitive advantage

Across the interviews, it was evident that human capital resources are a significant factor contributing to the competitiveness of large Finnish companies and interviewees recognized the link between competencies and competitiveness. Expert 1 noted that as Finnish companies compete in international markets, particularly in manufacturing and technology sectors where products and services are high in added value, both employees' competence and leadership become key factors:

> *It all starts with people, and it is ultimately people's competencies and leadership that determine competitiveness.* (Expert 1)

Expert 1 continued adding that across industries, firm performance is closely linked to competence, particularly in the international markets where Finnish companies operate, as Finland's small size and high level of education have made human expertise a key source of competitiveness. However, both Expert 1 and Expert 3 noted that while competence generally underpins firm performance, there are exceptions in low-value-added activities, where competitiveness is driven more by factors such as production volumes or access to inexpensive inputs, as well as capital-intensive industries, where established processes and production facilities can sustain performance.

In Company B, competence is understood as a combination of *KSAOs* that enable both individuals and organizations to perform effectively and achieve goals. According to the interviewee from Company B, the relationship between competence and overall firm performance is thus reflected in competitiveness in the market, particularly in financial outcomes such as revenue growth, profitability, and the ability to gain market share from competitors.

Several interviewees described a direct link between competencies and weakened operational performance. According to Expert 1, lack of relevant competence directly weakens companies' international competitiveness. Accordingly, Expert 3 noted that a lack of required competencies limits a company's ability to achieve its full potential:

> *In my view, competence is equal to a company's success. It's as simple as that.*
> (Expert 3)

The interviewee from Company B noted that, because the company's competence is closely tied to its overall performance and competitiveness, failing to secure the necessary competence poses a major risk of reduced competitiveness. Company C, operating in a highly competitive market, receives continuous market feedback through both lost and won customer projects. The interviewee from Company C explained that this way, the company assesses whether competence gaps may have contributed to unsuccessful project bids. When asked about the biggest risks if the company fails to secure the necessary competence, the interviewee explained:

> *The biggest risk is not winning those customer projects. If we fall behind in developing our expertise, for example, in artificial intelligence, we are not competitive enough. This means our competitors may be better and the project goes to another company.*
> (Company C)

Similar to Company C, the interviewee from Company E explained that the most immediate risk would be a direct decline in competitiveness, as the company would not be able to meet customer needs, which could, in turn, negatively affect customer satisfaction. The interviewee from Company D also expressed a similar view, as the company's business is entirely built around highly specialized expertise, and lacking these competencies would directly affect the company's operations, as they would not be able to deliver their exceptional *core products*. As the interviewee from Company D explained, it is the curiosity, the drive to improve the products and the overall competence of individuals that ultimately make an impact:

> *We are absolutely reliant on the people who possess this kind of competence. Without them, I honestly do not know where the company would be – probably nowhere.*
> (Company D)

Although competencies were clearly positioned as a key source of competitive advantage for Finnish companies operating internationally, the findings suggest that in dynamic environments, their value is contingent on their alignment with changing market demands. As this alignment is constantly challenged, firms are required to reconfigure and renew their competence base to maintain competitiveness.

4.3.2 Market-driven competence reconfiguration

Across the interviews, both company representatives and experts emphasized that ongoing market changes are fundamentally reshaping how value is created. In response, companies continuously engage in *sensing*, *seizing* and *transforming* to capture this value and renew their competencies accordingly. Across the interviews, one notable shift emerged, whereby competitive advantage is increasingly moving away from individual products or technologies toward broader service ecosystems, life cycle solutions and the creation of meaningful value, requiring novel competencies. In Company B, the core products themselves were described as accounting for a decreasing share of total revenue, highlighting the growing importance of lifecycle services:

> *…it's not only about the product itself, but about how it is maintained. As them [products] evolve and become more complex, this increases the competence requirements in the service business.* (Company B)

Both Company D and Company E similarly rely on lifecycle-oriented business models that provide them competitive advantage in international markets. Both the interviewee from Company A and the interviewee from Company E emphasized that, ultimately, it is the customer who generates revenue for the organization. According to the interviewee from Company E, customer work is ultimately where the company's revenue arises and what keeps the organization running. In Company E, this focus has recently been further reinforced through a new strategy emphasizing customer-centric growth:

> *Customers are at the core of our operations, and customer-centricity is one of our key values. It is at the center of everything we do.* (Company E)

The interviewee from Company C highlighted that their value creation is directly shaped by evolving customer expectations, meaning employee competencies must adjust accordingly. Expert 2 likewise emphasized that customer-centric value creation is a key pathway for Finnish companies to differentiate themselves in international markets and gain a competitive edge.

As customer-centricity was identified as a key source of competitive advantage for Finnish companies in international markets, customer service competence emerged as a critical capability for sustaining this competitiveness. The interviewee from Company A noted that Finnish companies, in general, provide relatively strong customer service, compared to some other countries. However, Expert 3 noted that although the graph presented during the interview included the enhancement of customer experience through digital tools, the role of digital customer experience should be more explicitly highlighted. In particular, Expert 3 emphasized that the frontier of customer-centric competitiveness

now lies in digital customer experience, where analytics and data enable personalized, "segment-of-one" services. Expert 4 noted that many of the fastest-growing skills presented in the graph relate to service business, particularly service design, a competence Finnish companies still need to strengthen:

> *We [in Finland] need to learn service design and build stronger competency in managing commercial relationships, starting from the very basics. Currently, we [in Finland] are not very good at it.* (Expert 4)

Although the findings indicate that customer-centricity should be operationalized through customer service competence, delivering value to customers must be complemented by the ability to first capture it. This shift was emphasized across the interviews, highlighting the growing importance of commercial competencies. As noted by Expert 1, while Finnish companies are seeking different types of competencies to remain competitive, an understanding of business logic and a business-oriented mindset are essential across industries and roles. In particular, challenges in sales and marketing were constantly highlighted across the interviews. Expert 1 noted that the graph shown during the interview placed a strong emphasis on digital skills, problem-solving and creativity. However, Expert 1 highlighted notable gaps in commercial skills in Finnish companies, even though these skills likely remain important in the future:

> *I would highlight the commercial side as well, namely sales, marketing and the ability to turn ideas into marketable products or services. (Expert 1)*

In both Company A and Company B, sales were seen as a critical competence. According to the interviewee from Company A, sales competence is largely holistic in nature. Reflecting the customer-centricity, the interviewee from Company B similarly viewed the role of sales competency extending beyond product knowledge. According to the interviewee from Company B, sales competency involves the ability to guide customers in making choices and build a trust-based relationship. Thus, the interviewee from Company B emphasized consultative selling as a key element of effective sales competency. Expert 1 continued adding that while Finnish companies have strong expertise in traditional heavy B2B industries, companies were seen to face difficulties in consumer-oriented markets and for example, in building strong brands. Similarly, Expert 2 noted that although Finnish companies possess strong technical competence, they appear to face challenges in capabilities related to understanding market segments and scaling business operations internationally. Expert 2 particularly emphasized the need for a broader understanding of the full business lifecycle, from product development to marketing, as well as stronger capabilities in international market understanding and related marketing functions.

For organizations to respond to identified opportunities and threats, innovation and renewal capabilities were seen as important across the interviews. According to Expert 2, competence reconfiguration and alignment with the surrounding environment requires both adaptability and the ability to renew:

> *…at the company level, the most important is the ability to adapt and renew. It is about anticipating changes and responding to them, rather than only reacting to immediate needs. This way, competencies and competence gaps are essentially about anticipating where new kinds of competencies will be needed in the future.* (Expert 2)

Similarly, both Expert 3 and Expert 4 also highlighted the ability to renew as a critical future competence need. According to Expert 4, long-term growth can only be achieved through continuous renewal. The interviewee from Company C noted that navigating a constantly changing business environment requires continuous renewal, as processes that worked last year may now have been completely redesigned.

However, some companies face complex challenges related to continuous renewal and market-driven competence reconfiguration. While companies must reconfigure their competencies to align with market demands, they simultaneously face difficulties in accessing certain skills, driven by, for example, the shifting preferences among younger employees. The interviewee from Company E expressed a broader concern about the whole industry becoming less attractive to younger generations. The interviewee further added that, as a result, the number of young people entering the field may not be sufficient to meet the future market needs:

> *Some would say we are facing a skills crisis.* (Company E)

Although continuous renewal was seen as a key requirement for sustaining competitiveness, the interviewees also highlighted the importance of growth orientation and healthy risk-taking capability in responding to market changes. According to Expert 1, the biggest competence gaps in Finnish companies are related to scaling business and risk-taking. Similarly, Expert 3 noted that Finnish companies might be overly focused on cost efficiency, to the point where it becomes limiting:

> *Cost efficiency is, of course, valuable but cost-cutting cannot continue indefinitely. At some point, there needs to be the courage to build new pillars for the business and to identify new opportunities and be willing to invest in them.* (Expert 3)

The interviewee from Company D noted that Finnish companies could set even more ambitious, yet achievable, goals instead of being overly cautious. Similarly, Expert 2 suggested that the question is not always about the shortage of competency, as perhaps in Finnish companies, there is a lack of passion to market and expand more aggressively. Company C similarly emphasized the importance

of pioneering and experimentation, viewing early adaptation of new approaches as a source of competitiveness. This perspective was reflected in the observation of Expert 3:

> *We [in Finland] need to dare to invest and take the risk. It might go really badly, but at least we have tried.* (Expert 3)

As an innovative and market-oriented example, Expert 3 mentioned a Finnish technology and food delivery company, Wolt. According to Expert 3, the concept of the company is, of course, brilliant, but they succeeded partly because they dared to experiment without being constrained by perceived limitations. In addition to healthy risk-taking, Expert 3 continued adding that Finnish companies often lack boldness in the later stages of the product lifecycle:

> *Where we [in Finland] struggle the most is in the later stages of the product lifecycle. It is not just about coming up with ideas and developing them but actually bringing them to market. In my view, Finland lacks a bold and experimental go-to-market culture.* (Expert 3)

According to the interviewee from Company A, willingness to experiment and take risk are reflected in their creativity and innovation competence. The other interviewees also highlighted the importance of innovation capacity and creativity in sustaining competitiveness in international markets. Both Expert 1 and Expert 3 highlighted that innovation has always been an integral part of Finnish culture. Expert 1 emphasized that, as Finnish companies cannot excel at everything, it becomes increasingly important to make strategic decisions about how scarce resources are allocated. Consequently, Expert 1 highlighted the importance of leveraging the existing strengths of Finnish companies, particularly in technological innovation across various fields. Expert 3 further emphasized that Finnish companies are particularly strong in the early stages of innovation and inventing processes, highlighting the exceptionally high level of engineering expertise, which Expert 3 considered to be world-class. Expert 3 further added that innovation is deeply embedded in Finnish industrial culture and the success of many Finnish companies, such as the telecommunication and information technology company Nokia and some major gaming companies, has largely been based on their ability to innovate. Expert 2 also emphasized the importance of innovation capacity. Expert 2 observed that competence is reflected in companies' performance through their capacity for innovation and thus production and quality. Conversely, according to Expert 2, if a company fails to secure the necessary competence, its capacity for innovation will decline. Both the interviewee from Company D and the interviewee from Company E emphasized innovation capacity, particularly research and development, as having a central role in the development of their products and technologies and thus competitiveness.

While competencies were described actively being reconfigured in response to market demands, such reconfiguration is inherently linked to the competence development strategies through which companies build and renew their competencies.

4.3.3 Competence development strategies

Across the interviews, recruitment was seen as a key means for ensuring the necessary competence. Both Expert 1 and Expert 2 viewed recruitment as a common method for acquiring expertise in Finnish companies. The interviewee from Company A acknowledged that in some cases, especially when rapid competence renewal is needed, external recruitment is necessary and effective. However, Expert 3 argued that this approach is often ineffective, as when executives identify a competence gap, their initial response is to consider how the required experience can be obtained as cost-effectively as possible, often avoiding the use of consultants due to perceived high costs. However, Expert 3 emphasized that high-quality expertise comes at a cost:

> *…it is similar to deciding whether to fix your own teeth or go to a dentist; the more professional option is likely to lead to a more sustainable outcome.* (Expert 3)

The recruitment process itself was also seen as challenging. The interviewee from Company D expressed that designing a recruitment process around the targeted competencies is one of the main challenges for the company because interviews and assignments do not always reveal an applicant's true capability:

> *The main [competence] gap lies in building a recruitment process that is competence-oriented. It's not impossible, but it's challenging.* (Company D)

Across the interviews, the overall safeguarding of future competencies was seen as challenging. According to Expert 1, Finnish companies face recruitment challenges related to, for example unappealing employer image and limitations in offering compensation that meets employee expectations, further constrained by the country's relatively high taxation. Expert 2 similarly pointed out that the high taxation in the Finnish context may hinder competence development. The interviewee from Company A identified similar challenges related to recruitment, as higher compensation for comparable expertise is offered in some other countries.

Failing to develop strategically important competencies or the loss of such competencies challenges companies, as assessed by the interviewee from Company A. The interviewee from Company A further described areas where they perform relatively weak and the organization depends on a few individuals with deep expertise and tacit knowledge, highlighting the challenge of sourcing role-specific tacit knowledge from the external labor market:

> *If those employees are not taken care of, the company is left with nothing.* (Company A)

As all of the companies operate in international markets, international recruitment was naturally seen as a key means of ensuring access to expertise. The interviewee from Company A reported a significant shortage of skilled workers in certain areas of expertise and indicated that the company has already hired nearly all available professionals with certain competence in Finland. As domestic availability declines, Company A increasingly seeks expertise abroad. According to the interviewee from Company D, they primarily recruit talent from all around the world:

> *…as an international company, it's not only the people that we hire in Finland but actually around the world.* (Company D)

Several interviewees noted that increasing global competition for strategically important competencies presents significant challenges. The interviewee from Company E highlighted that they compete for the same experts as every other company within the industry worldwide, making certain key competencies increasingly difficult to secure. The interviewee from Company E continued adding that, as Finland no longer appears to be the most attractive option for foreign workers, competence development becomes even more challenging.

On the other hand, Finland's stable and well-functioning society was consistently viewed as an important asset shaping competence development in Finnish companies. Expert 1 emphasized that the Finnish context provides a humane and equal work culture, comprehensive welfare state services and an overall sense of safety. Expert 2 further noted that good governance and a strong education system support the development of competencies. These country-specific advantages were seen translating into practical advantages for companies. For example, according to the interviewee from Company D, the reputation of Finnish society is beneficial when attracting talent from all around the world to Finland. Although Company C operates widely across Europe, they are proud of their Finnish roots:

> *Having Finnish roots is something that builds trust. It certainly benefits us that our origins are in a country with a strong and reliable reputation.* (Company C)

However, the interviews proposed several complementary strategies for securing future competencies. Beyond external recruitment, the interviews highlighted the importance of internal approaches to competence development. Expert 3 mentioned approaches such as in-house recruitment and contingent workforce models as ways to increase flexibility and focus internal resources on strategic competencies. Expert 3 further mentioned that outsourcing non-core competencies can be an effective strategy to maintain focus on strategically important core competencies.

In the context of internal approaches, continuous learning emerged as a central mechanism through which companies develop and renew competencies. Expert 2 underscored the importance of internal training and continuous learning, essential for building competencies needed for future competitiveness. Expert 2 further emphasized that a strong and continuously developing competence base allows companies to respond to market changes and remain competitive in today's business environment:

> *Across industries, companies with a strong and continuously developing competence base are able to respond more quickly to market changes and seize new opportunities. Competence is therefore closely reflected in innovation capability, productivity and quality.* (Expert 2)

In Company C, continuous learning together with adaptability were seen as one of the most important factors to maintain competitiveness and respond to the changing customer needs. Similarly, the interviewee from Company E also highlighted the importance of continuous learning. The interviewee from Company E emphasized that in a constantly evolving environment, individuals are continuously required to absorb new knowledge and develop new skills. According to the interviewee from Company E, continuous learning is essential for organizations to ensure employee adaptability.

In Company B, the organization supports employees' continuous learning through annually set goals and a development process that applies to all employees. The process is clearly defined and closely integrated with both competence management and talent management practices. According to the interviewee from Company B, actions and investments related to competence development are guided by this process. The interviewee from Company B noted that without such a plan, investments in competency development would be unlikely to take place.

However, Expert 4 noted that rigidity, as a structural challenge in Finnish companies and labor markets, limits the understanding of continuous and lifelong learning and challenges competence development in Finnish companies. Expert 4 emphasized that competencies can and should be developed at any age and organizations should actively support this. In addition, organizations ensure continuous learning through mandatory training. Both Company A and Company C have certain mandatory trainings for their employees, regarding, for example, safety and information security, which they monitor closely. Similarly, in Company B, certain competencies are considered essential and must be verified, particularly those related to safety and occupational safety requirements.

Nearly all of the interviewed companies highlighted learning by doing as one of the most important methods for developing competencies within the organization. According to both the interviewee

from Company A and the interviewee from Company B, some competencies can be acquired only through learning by doing:

> *...the majority of competence development occurs through the work itself.* (Company B)

Similarly, the interviewee from Company D noted that in their context, as the work itself might be very challenging, competence development often occurs through practical experience and learning by doing. The interviewee from Company E described that they have established an internal academy, offering a wide range of training programs from soft skills to highly technical competencies. However, the interviewee from Company E emphasized that a clear future competence gap has been identified, particularly in terms of how to design training solutions that enable effective knowledge transfer, especially tacit knowledge.

Some interviewees noted that in the Finnish context, the importance of a certain degree is often emphasized over actual competency, even though, according to the interviewees, learning by doing could help develop a more flexible system for reconfiguring competencies. Both Expert 2 and Expert 4 argued that in Finnish companies, considerable emphasis is placed on having the exact degree for a certain role and staying strictly within those boundaries.

> *We need to move away from the idea that a degree equals competency. A certain qualification alone does not provide assurance of what an individual is capable of. In fact, it does not guarantee anything.* (Expert 4)

In addition to organizational practices, competence development was also seen as strongly dependent on individual-level factors, particularly attitudes, motivation and willingness to learn. The interviewee from Company E pointed out that in hectic work environments, individuals are often responsible for prioritizing time for learning themselves. Consequently, although employees may wish to develop new skills, time constraints and difficulties in prioritization may limit these opportunities. According to Expert 1, the development of new competencies ultimately depends on individuals' own motivation and willingness to learn. Similarly, Expert 2 viewed competency as a broader set of individual attitudes toward learning:

> *Competence is quite a dynamic whole as it is not only about the skills and knowledge that people have…Then also the attitude toward learning, the ability to learn, and the willingness to learn new things and develop.* (Expert 2)

According to the interviewee from Company A, skills or competency cannot therefore be forced to be taught. The interviewee from Company A continued adding that their best employees are genuinely

curious and actively follow developments in their field, for example, by reading research and exploring new knowledge:

> *...you need to have people who are genuinely interested [in learning and developing].* (Company A)

Finally, competence development was not viewed solely as internal to organizations, but increasingly as extending beyond firm boundaries through collaboration and ecosystem-level approaches. Both companies and experts emphasized cooperation with other companies and institutions. According to Expert 2, there is a growing need for collaborative competence clusters around high-level expertise, where organizations and educational institutions can collaboratively build and strengthen such expertise. Similarly, Expert 4 emphasized that an increasingly important capability for companies is the ability to recognize clustering opportunities with other firms. This, according to Expert 4, includes identifying which competing or complementary organizations to collaborate with and building shared platforms for joint planning and development:

> *...so-called competence-hubs and networking within them are highly important as we are much stronger together than alone.* (Expert 4)

The interviewee from Company B similarly emphasized the importance of diverse partnerships, as not all competencies are held internally, highlighting the need for companies to think more broadly in terms of ecosystem management.

4.4 Synthesis of the empirical findings

First, large Finnish companies operating in international markets face a broad range of external pressures that shape their operations and, consequently, their future competence needs. Among the *drivers shaping future competence needs*, competitive and market pressures, technological transformation and increasing complexity emerged as key factors increasing the uncertainty and unpredictability surrounding future competence needs. From competitive and market pressures, megatrends such as responsibility, sustainable development and geopolitical tensions emerged as areas driving novel innovations and thereby increasing the need for new competencies and expertise. Technological transformation was also identified as rapidly shaping future competence needs across industries. Although Finnish companies already possess strong technological expertise, keeping pace with rapid technological development, particularly in relation to artificial intelligence, poses considerable challenges. Simultaneously, sustained growth requires the effective utilization of novel technologies. As environments shift and technologies evolve, increasing complexity further shapes the future competence needs.

Second, *the conceptualization of future competencies* in Finnish companies is a multi-level construct encompassing both the organizational context and the individual dimension. Within the organizational context, competencies are understood as collective and organizational capabilities embedded in organizational culture, processes and leadership. The role of executives and leadership emerged as particularly important in securing the competencies required for future success. Furthermore, diverse and heterogeneous organizations were seen as essential for fostering innovation and enabling long-term growth. Human-centric competencies in digital transformation are seen as particularly important in the age of artificial intelligence. While technical expertise remains essential, effectively leveraging it requires soft skills such as collaboration and emotional intelligence. Furthermore, in the context of increasing complexity and the fast pace of change, resilience and mental well-being emerged as important factors for sustaining performance.

Finally, in terms of *organizational response*, competence-based competitive advantage, market-driven competence reconfiguration and competence development strategies were identified as key organizational approaches for addressing future competence needs in Finnish companies operating internationally. Finnish companies conceptualize human capital resources as a strategic source of competitive advantage in international markets. Consequently, failing to secure the competencies can directly undermine operational performance. As market changes reshape how value is created, companies engage in market-driven competence reconfiguration. These changes include, for example, the transition from individual products to broader ecosystem services and lifecycle services. Capturing value from these emerging opportunities requires novel expertise, particularly innovation competence. Securing future competencies is considered challenging. Within competence development strategies, both domestic and international recruitment were identified as effective means of securing expertise, although competition for competencies remains intense. Alongside external recruitment, internal approaches, especially continuous learning combined with adaptability, were seen as the most important mechanisms for responding to future competence needs. Table 5 presents a synthesis of the empirical findings of this study.

Table 5 Synthesis of the empirical findings

Aggregate dimension	2nd order theme	Synthesized empirical insight
Drivers shaping future competence needs	Competitive and market pressures	Future competence needs are continuously evolving, shaped by environmental uncertainty and unpredictability.
	Technological transformation	
	Increasing complexity	
Conceptualization of future competencies	Organizational context	Future competencies are conceptualized as a multi-level construct that encompasses both individual and organizational dimensions, with growing emphasis on human-centric competencies and soft skills in the digital transformation.
	Human-centric competencies in digital transformation	
Organizational response	Competence-based competitive advantage	Finnish companies conceptualize human capital resources as a source of competitive advantage in international markets, where competencies support operational performance, enable value creation, facilitate market-driven reconfiguration and require continuous learning.
	Market-driven competence reconfiguration	
	Competence development strategies	

Taken together, the empirical findings of this study highlight the multifaceted and dynamic nature of future competence needs of Finnish companies operating in international markets. The empirical findings demonstrate that future competence needs are shaped by external drivers, evolving conceptualization of competencies and strategic organizational responses. In the next chapter, these findings are discussed in relation to the research questions.

5 Discussion and conclusions

5.1 Discussion

5.1.1 Evaluating current competencies in large Finnish companies

The first sub-research question of this study was: *"How do companies evaluate their current competencies?"* To address this, the empirical findings are discussed in relation to the resource-based view and the knowledge-based view. This study contributes by integrating these perspectives to explain how companies evaluate their current competencies as a strategic resource for strengthening and sustaining competitiveness in international markets.

The findings clearly show that large Finnish companies place strong emphasis on human capital resources as the primary source of competitive advantage. This supports the arguments of Bartlett and Ghoshal (2002) as well as Muzam (2023) that human capital is viewed as a primary source of competitive advantage for modern organizations.

The findings also show that companies evaluate their competencies as a multi-level construct encompassing both individual and organizational dimensions. This aligns with the resource-based view, where competencies are viewed as important organizational resources (Ployhart et al. 2014; Ployhart 2021), and the knowledge-based view, which emphasizes that knowledge resides within individuals (Grant 1996b). Consistent with Nonaka and Takeuchi (1995), companies do not create knowledge independently but rely on individuals. However, the findings indicate that competencies are evaluated not based on individual possession alone, but on how effectively they are integrated and utilized within the organization. In line with Boyatzis (2008), performance is thus understood as a combination of individual competencies and organizational context.

The evaluation of current competencies in large Finnish companies is closely linked to operational performance and value creation. The findings show that competitiveness in international markets, particularly in knowledge-intensive and technology-driven industries, is largely built on advanced technological solutions and the competencies enabling them. This highlights the importance of intangible resources (Hitt et al. 2001) and aligns with the resource-based view, identifying unique resources as sources of sustained competitive advantage (Wernerfelt 1984; Barney 1991), as well as the knowledge-based view (Grant 1996a), which emphasizes the role of knowledge in enhancing resource value. As Finnish companies typically compete in high-value-added industries in international markets, the importance of knowledge-based resources is highlighted, consistent with

Bergh et al. (2025), who argue that knowledge-based resources generate strong and hard-to-imitate competitive advantages.

Furthermore, companies evaluate competencies through continuous, market-based validation. Competencies are considered valuable when they contribute to value creation in external markets, indicating a shift from an internally focused assessment toward external validation. In line with Sanchez and Heene (1997), the findings further highlight that while competencies are developed internally, their value is ultimately determined in external competitive environments. Importantly, the findings suggest that although companies evaluate their current competencies to support value creation in markets, these competencies alone are not necessarily VRIN, as many competitors may possess similar capabilities. While individual skills may be widely available within an industry, sustained competitiveness arises from the complex and firm-specific configurations. This aligns with prior research (Ployhart et al. 2014; Ployhart 2021; Guo & Chen 2022) suggesting that it is not individual human capital resources, but their combinations, that drive competitive advantage by creating complex and inimitable configurations.

The evaluation of current competencies also revealed competence gaps, underscoring the direct impact that insufficient competence has on organizational performance. Most notably, competence gaps were identified in competence configurations. The findings suggest that strong technical competence is often not complemented by competencies in areas such as sales, marketing and branding. This similarly indicates that while individual competencies may be valuable, the lack of integration might limit the ability to create VRIN resource combinations. In addition, weak risk-taking was identified as a limitation, suggesting that companies may not fully exploit their existing competencies. These findings suggest that competitiveness is not only constrained by the availability of competencies but also by how effectively they are combined and leveraged.

This is further reflected in the finding that even large organizations remain highly dependent on individual employees. The loss of a single employee may significantly affect organizational performance, highlighting the critical role of tacit knowledge. This underscores the paradox of tacit knowledge as a critical source of competitiveness (Ambrosini & Bowman 2001) but also an organizational vulnerability, particularly given that such knowledge is difficult to access or replace through the external labor market (Puce et al. 2023). Although the knowledge-based view suggests that internationally operating companies are particularly well-positioned to access and transfer tacit knowledge (Belderbos et al. 2025), the findings indicate that it remains challenging for internationally operating companies to formalize, transfer and retain tacit knowledge.

Although competencies are already seen as an important factor in the success of Finnish companies in international markets, their importance is expected to increase further. While technological advancements, especially artificial intelligence, are already reshaping job descriptions and skill requirements, firms continue to face increasing pressure from evolving external environments. To sustain and strengthen their competitiveness in international markets, organizations must not only reconfigure their existing competencies but also proactively develop new ones. This necessitates a forward-looking approach, shifting the focus from evaluating current competencies to envisioning future competence needs.

5.1.2 Envisioning future competence needs in large Finnish companies

The second sub-research question of this study was: "*How do companies envision their future competence needs?*" To address this and extend the evaluation of current competencies in large Finnish companies toward the envisioning of future competence needs, the resource-based view and knowledge-based view are complemented by the dynamic capabilities perspective, shifting the focus from static to a more dynamic understanding of competencies.

The empirical findings show that companies frame their future competence needs in relation to key driving forces, including competitive and market pressures, technological transformation and increasing complexity. The findings suggest that companies frame future competence needs as continuously evolving. While high-technology solutions and related competencies remain central sources of competitive advantage in international markets, the conditions shaping these advantages are constantly changing. Although the drivers influencing future competencies are not inherently new, their pace is expected to accelerate, with existing trends likely to intensify. In line with prior research (Caligiuri et al. 2024; Stephany & Teutloff 2024), the increasing unpredictability challenges companies in envisioning their future competence needs.

Companies continuously envision their future competence needs by *sensing* external changes such as geopolitical tensions, sustainability-related developments and technological transformation. This aligns with the sensing dimension of dynamic capabilities (Teece 2007; Matysiak et al. 2018; Pitelis et al. 2024), where firms must identify and interpret changes in the environment. In line with Schoemaker et al. (2018), the role of VUCA environments is reflected in companies' sensing activities. The findings indicate that companies must continuously monitor and interpret, for example, technological developments to anticipate future competence needs. However, similar to the argument of Matysiak et al. (2018), sensing future competence needs in large companies extends beyond identifying valuable capabilities to evaluating where these can be secured from, highlighting the role

of both firm-specific factors and country-specific factors. In the Finnish context, sensing in companies extends to both anticipating structural constraints in the domestic talent pool and evaluating access to international talent to align competence needs with market demands. This suggests that sensing is not only about identifying future competence needs in relation to external changes but also assessing the feasibility of acquiring and developing them within a special national context.

Beyond sensing changes, companies actively engage in *seizing* future competence needs through strategic prioritization and investment decisions. This is reflected in, for example, the emphasis on acquiring expertise through targeted recruitment. In line with seizing dimension of dynamic capabilities (Teece 2007; Matysiak et al. 2018; Pitelis et al. 2024), companies intend to make deliberate choices regarding which competencies to develop to capture emerging opportunities and sustain competitiveness in international markets. Although companies recognize the external forces affecting them, their implications for future competence needs remain partly unclear. As suggested by Turner and Crawford (1994) and Floyd and Lane (2000), companies make decisions about future competencies under conditions of uncertainty regarding future sources of value.

The findings further highlight the importance of *transforming* and renewing existing competencies. In line with previous literature (Teece 2007; Matysiak et al. 2018; Pitelis et al. 2024) on the transforming dimension of dynamic capabilities, companies emphasize continuous learning, upskilling and the ability to renew competencies. In the context of Finnish companies that already possess strong hard skills and technical competencies in international markets, transforming involves the integration of existing strengths with emerging competencies, such as those related to sustainability. Established technical expertise is increasingly extended toward emerging and evolving domains, illustrating how existing competencies are recombined with new requirements shaped by changing conditions. Rather than relying on existing capabilities, companies highlight that sustaining competitiveness in international markets in the future requires companies to continuously renew and reconfigure their competencies.

Finally, in relation to the strategic renewal discussion, the empirical findings of this study provide support for the call by Schmitt et al. (2018) to move towards a more integrated perspective of organizational learning, the resource-based view and the dynamic capabilities perspective on strategic renewal. The findings of this study suggest that these are closely intertwined. Competence development shows how companies simultaneously build capabilities and engage in learning. This suggests that the tension identified in prior research may be less distinct in practice, as these processes occur together.

5.1.3 Competencies for sustaining international competitiveness

The main research question of this study was: "*What kind of competencies companies need to strengthen and sustain their competitiveness in international markets in the future?"* Addressing Shet's (2024) call to examine the link between employees' VUCA competencies, organizational performance and competitive advantage, this study contributes by identifying competencies that large Finnish companies need to sustain competitiveness in international markets in the future. To examine these competence needs, the empirical findings are interpreted through the resource-based view and knowledge-based view, together with the dynamic capabilities perspective. In line with Cavusgil and Deligonul (2025), the findings of this study suggest that sustained competitiveness in international markets cannot be explained by resource-based view or knowledge-based view alone, but requires integrating these perspectives with dynamic capabilities, as firms must not only possess valuable competencies but also continuously adapt and renew them.

To extend the theoretical framework of the study, Figure 6 presents a revised theoretical framework that integrates the empirical findings of this study with the existing literature. Compared to the initial theoretical framework, the revised model introduces drivers shaping future competence needs, emphasizing the role of environmental pressures in influencing organizational responses. In this study, sensing is reflected in identifying future competence needs, seizing in responding through targeted investments and transforming in the continuous renewal and reconfiguration of the firm's resource and competence base.

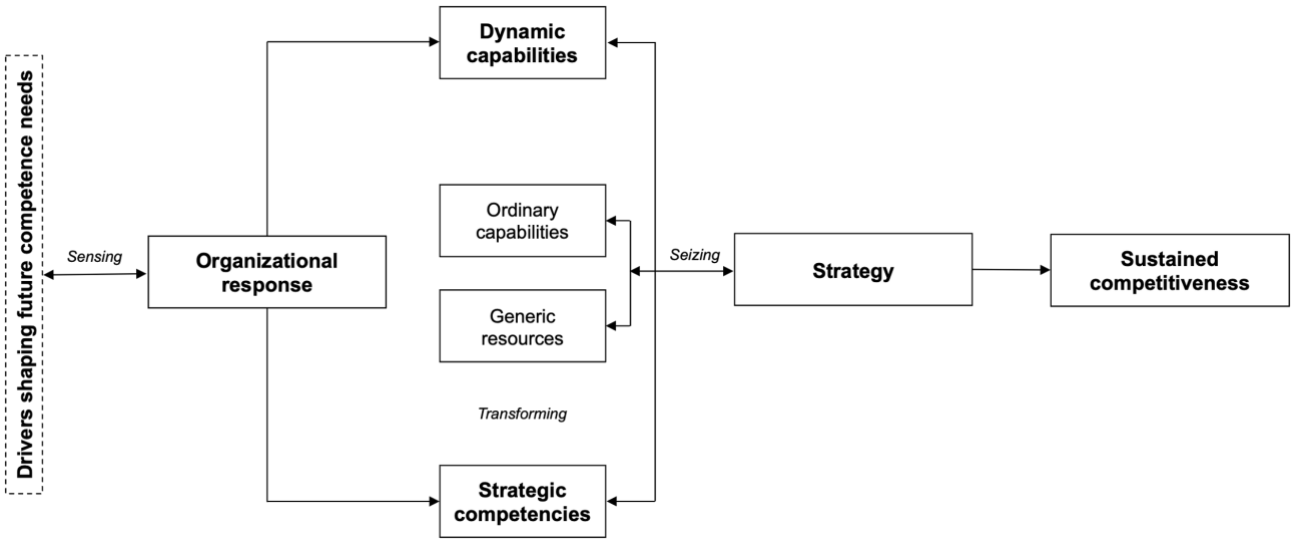

Figure 6 Revised theoretical framework

The competencies Finnish companies require for sustaining competitiveness in international markets are both organizationally embedded and human-centric in nature. Organizational context, such as culture and leadership, shapes how competencies are developed and utilized, while human-centric competencies, such as adaptability, collaboration and resilience, enable effective performance. In particular, organizational culture emerged as a critical factor, where trust and openness function as enabling conditions for effective collaboration and knowledge sharing. In addition, diverse and heterogeneous organizations were emphasized as important for enhancing problem-solving and innovation. The findings highlight that diversity broadens perspectives and supports the development of novel solutions, making it a valuable and difficult-to-imitate organizational capability.

Furthermore, leadership was identified as a central strategic competence enabling organizations to sense, seize and transform in response to changing environments. In particular, leadership courage and willingness to take risks were highlighted as critical factors influencing companies' ability to pursue new opportunities and engage in strategic renewal. This is supported by prior research on dynamic managerial capabilities (Helfat & Peteraf 2015; Schoemaker et al. 2018), which emphasizes the role of managerial cognitive capabilities in enabling strategic change. These capabilities refer to managers' ability to perform complex mental activities, such as interpreting information, making decisions and envisioning future opportunities. In particular, such cognitive capabilities underpin managers' ability to sense, seize and transform resources, thereby shaping organizations' capacity for strategic renewal.

The findings clearly indicate that large Finnish companies already possess a strong level of expertise and technical competencies, and that their international success is not constrained by a lack of competence. However, to strengthen and sustain competitiveness in international markets in the future, this expertise should be more strategically leveraged to capture opportunities arising from, for example, megatrends.

As technological competencies are treated as a prerequisite, the findings highlight the growing significance of human-centric competencies, which do not appear to be substitutable by technology. As competence encompasses both hard and soft skills (Salman et al. 2020; Tiron-Tudor et al. 2025), the role of soft skills in sustaining international competitiveness is likely to become increasingly important. These competencies can be understood as microfoundations of dynamic capabilities, supporting the organizational adaptation and efficient operations in ever-changing environments. This aligns with the argument of Felin and Foss (2005), who highlight the importance of individuals as the microfoundations of organizational phenomena. They argue that capabilities, learning and

knowledge can only be fully understood by examining the underlying characteristics of individuals, including their abilities, motivations and heterogeneity. In line with this, the findings highlight that dynamic capabilities are not purely organizational constructs but are executed through individual-level competencies that enable firms to continuously sense, seize and transform in today's VUCA environment.

The maintenance of employee well-being constitutes a critical organizational competence for sustaining competitiveness. In more demanding and fast-paced environments, the ability to maintain performance under pressure and volatility emerges as a key differentiating factor. Competitiveness, therefore, becomes closely linked to sustainable human performance, positioning well-being not only as a supportive factor but as a strategic capability. In doing so, this study responds to Shet's (2024) call for future research on the link between competencies required in VUCA environments and employee well-being, suggesting that well-being constitutes a critical factor for companies to stay resilient and sustain competitiveness. This perspective may be particularly relevant in the Finnish context. The strong emphasis on well-being, work-life balance and other supportive structures commonly associated with Finnish working culture may provide a foundation for developing and sustaining these human-centric competencies and thus become a source for Finnish companies to strengthen and sustain their competitiveness in international markets in the future.

As discussed in the introduction, future competence needs in Finland have been anticipated through initiatives such as the National Forum for Skills Anticipation (Finnish National Agency for Education 2019). The findings of this study provide an opportunity to examine how these nationally identified competence needs are reflected at the firm level. Overall, there is a clear alignment between the findings of this study and the results of the National Forum for Skills Anticipation's anticipation work. For instance, competencies related to customer orientation and understanding customer needs were strongly emphasized in both. However, some differences also emerged. While the report places significant weight on the importance of digital skills, the findings of this study indicate that companies largely treat these competencies as a prerequisite. This implies that at the firm level, particularly in large companies, digital competencies are already embedded in everyday operations and are therefore increasingly treated as a basic or underlying capability. The findings of this study complement and deepen the results of the National Forum for Skills Anticipation by illustrating how competencies are closely linked to firm performance and the maintenance of competitiveness in international business environments. Rather than merely identifying relevant future competencies, this study highlights the underlying mechanisms through which these competencies contribute to organizational success.

Overall, sustaining competitiveness in international markets is not dependent on specific skills or capabilities alone, but rather on companies' ability to continuously adapt and renew themselves. While technical expertise remains a critical condition, it is no longer sufficient for sustaining competitiveness in VUCA environments. Instead, the importance of soft skills will become increasingly important in the future.

5.2 Managerial implications

In addition to the theoretical contributions, this study offers important managerial implications for large Finnish companies operating in international markets. The findings provide insights into how organizations can better prepare for evolving competence needs in order to sustain and strengthen their future competitiveness in international markets. To achieve this, managers need to recognize the strategic value of competencies and the underlying logic. Managers should therefore actively support the organization's ability to continuously adapt and renew through strategic practices.

First, the findings suggest that companies should pay close attention to balancing technological and human-centric competencies. Similar to the suggestion of Caligiuri et al. (2024), managers should ensure that employees possess the necessary digital skills as well as soft skills. The adoption of advanced technological capabilities, particularly artificial intelligence, is considered critical for competitiveness and may improve efficiency, but as Evans et al. (2025, 2) note, it does not substitute human touch. Consequently, human-centric competencies remain essential for the effective utilization of technology.

Second, to support the continuous renewal of competencies, organizations should actively promote continuous learning and upskilling among employees, while also creating opportunities for them to contribute. In addition to internal competence development, the findings of this study suggest that companies should engage in cooperation beyond organizational boundaries, for example, with educational institutions, to better address future competence needs. The findings also underscore the importance of fostering diverse and heterogeneous organizational environments and culture to remain competitive. The findings suggest that managers should prioritize recruitment practices that bring in individuals from various backgrounds, as this diversity can enhance innovation and strengthen the organization's ability to respond to evolving market needs.

Furthermore, the findings highlight the growing importance of employee well-being, particularly in relation to digital detachment, mental health and resilience. As work has become more intensive and demanding, organizations should place greater emphasis on supporting employees' mental resilience

and promoting sustainable work practices. Consequently, managing employees' mental health and well-being is becoming a central concern for organizational leadership.

Overall, the findings of this study suggest that sustaining competitiveness in international markets requires a shift from managing competencies as a static asset toward managing them as dynamic, continuously evolving capabilities. This calls for a proactive approach to competence management, embedded within organizational strategy and daily practices.

5.3 Limitations and suggestions for future research

This study has some limitations, which also point to opportunities for future research. The qualitative nature of this study and the relatively small sample size, including five company representatives and four experts, limit the generalizability of the findings to all large Finnish companies. However, the methodological choices were made to gain a deeper understanding of future competence needs rather than produce broadly generalizable results and all interviewees, by virtue of their roles or positions, possessed relevant knowledge for the research topic. Future research could examine a larger sample size to improve the generalizability of the findings. Additionally, future research could validate the findings using quantitative methods, such as a large-scale survey.

Also, as all of the participating companies operate in technology-intensive industries, the findings may be somewhat context-specific. Different organizational contexts may emphasize different types of competencies. For instance, in service-sector organizations, competence needs may be shaped more strongly by customer interaction and service design. Expanding the scope to include a wider range of industries could provide alternative perspectives and more comprehensive insights into future competence needs. Furthermore, as this study focused solely on large companies, future research could extend the scope by examining future competence needs in SMEs, particularly in the context of internalization and international growth. This would enable comparison between large companies and SMEs and offer insights into how competence requirements may evolve and resource constraints affect competency development in different organizational contexts.

Finally, predictions concerning future competence needs are inherently uncertain. Consequently, the findings reflect the perspectives of the interviewees at the time of the data collection and may evolve as conditions, such as technological developments and market dynamics, continue evolving.

6 Summary

Competence is considered the only global competitive advantage fully in Finland's own control. As a small and export-driven economy, the country is highly dependent on international developments. Limited economic growth risks being further constrained by a lack of skilled labor. At the same time, the international business environment has become increasingly volatile, uncertain, complex and ambiguous, exposing internationally operating companies to various challenges. In today's knowledge-driven economy, firms depend on competencies to maintain competitiveness, underscoring the importance of skilled employees. However, rapid technological developments are reshaping future competence needs, requiring companies to develop more adaptable skills.

To address this, the aim of this study was to examine the competencies required for large Finnish companies to sustain international competitiveness, and how these companies evaluate their current competencies and anticipate future competence needs. To answer this, the study was structured around the following research question: *What kind of competencies companies need to strengthen and sustain their competitiveness in international markets in the future?* To address the main research question, the following sub-questions were formulated:

1. How do companies evaluate their current competencies?
2. How companies envision their future competence needs?

The study was guided by the operationalization of the research questions, which informed the literature review, the development of the theoretical framework and the design of the empirical research. The literature review approached competencies as a strategic resource for sustaining competitiveness in international markets, informed by the resource-based view as well as the knowledge-based view. The dynamic capabilities approach was used to examine strategic competence renewal. In the theoretical synthesis, these perspectives were integrated to explain how competencies as a strategic resource contribute to sustained competitiveness in international markets.

This study adopted a qualitative-exploratory approach with empirical data collected through nine semi-structured interviews, including five company representatives and four experts. The collected data were analyzed following the Gioia method. The inductive analysis resulted in a data structure with three aggregate dimensions that conceptualize the phenomenon under study.

The empirical findings of the study indicate that Finnish companies place strong emphasis on human capital as a source of competitive advantage, while recognizing its multi-level nature encompassing

both individual capabilities and firm-level factors. Competencies are externally evaluated through operational performance and value creation, with complex and firm-specific combinations considered more valuable, rare, inimitable and nonsubstitutable than individual skills.

Companies envision their future competence needs in relation to key drivers, including competitive and market pressures, technological transformation and increasing complexity. This envision occurs through sensing environmental changes as well as assessing the feasibility of acquiring and developing competencies within a specific national context. Through seizing, companies invest in critical competencies and align them with strategic priorities, despite uncertainty regarding future value creation. Transformation occurs as companies integrate existing strengths with emerging competencies through continuous learning and upskilling.

The empirical findings extend the theoretical framework by introducing external drivers that shape future competence needs and highlighting the role of environmental pressures in influencing organizational responses. Furthermore, the revised theoretical framework emphasizes sensing, seizing and transforming in relation to a firm's resources, competencies and strategy in achieving sustainable competitiveness. The findings suggest that sustaining competitiveness in international markets is not dependent on specific skills or capabilities alone but on companies' ability to continuously adapt and renew themselves while recognizing the importance of human-centric competencies and employee well-being in ensuring sustainable human performance and organizational success.

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Appendices

Appendix 1 Interview guide for company representatives

Background information & defining current competencies

- Name & title
- Brief description of the company you work for (size, industry…)
- Could you briefly describe your company's main business areas and international operations?
- What are your company's main sources of competitiveness in global markets today?

1. How do you understand the concept of *competence*?
   - Could you specify which competencies are particularly important for your company?
2. How do competence link to your company's overall performance?

Identifying existing competence gaps and challenges

3. In your view, what are the most important competencies your organization currently lies on?
4. Where do you see the biggest competence gaps in your company today?
5. How do these gaps impact your company's competitiveness?

Identifying future competencies

Figure to be shown

6. Having looked at the identified future competence needs; how do they resonate with your company's current and future needs?
7. Looking ahead 5 to 10 years, what (other) emerging competencies you believe will be most critical for your company's success?
8. Which are the main forces influencing the future competence needs in your company?

(Understanding competence development strategies)

9. How does your company currently develop competencies? (e.g., training, recruitment, internal mobility…)

10. What challenges do you face in competence development?

(Connecting findings to competitiveness)

11. What are the biggest risks if your company fails to secure necessary competencies?

12. How do you think the Finnish context in supports or limits the competence development?

(Closing)

13. Is there anything you would like to add about competencies and competitiveness in the future?

Appendix 2 Interview guide for experts

Background information & defining current competencies

- Name & title
- Experience (in years)
- Organization, industry
- What do you see are the key sources of competitiveness for Finnish companies in global markets today?

1. How do you understand the concept of competence?
2. How does competencies in general link to company performance (across industries)?

(Identifying existing competence gaps and challenges)

3. What are the most important competencies companies are currently looking for?
4. Where do you see the most common competence gaps across Finnish companies?
5. In your opinion, how do these gaps affect companies' competitiveness?

(Identifying future competencies)

Figure to be shown

6. Having looked at the identified future competence needs; how do they resonate with your experiences of companies' current and future needs?
7. Looking ahead 5 to 10 years, what (other) competencies you believe will be the most critical for Finnish companies' success?
8. What are the main forces influencing the future competence needs of Finnish companies?

(Understanding competence development strategies)

9. What are the typical strategies Finnish companies use to develop competencies (e.g., training, recruitment, internal mobility)?
10. What challenges do companies face in competence development?

(Connecting findings to competitiveness)

11. What are the biggest risks for companies if they fail to secure the necessary competencies?

12. How does the Finnish context support or limit competence development?

(Closing)

13. Is there anything you would like to add about competencies and competitiveness in the future?

Appendix 3 Visual summary used in the interviews

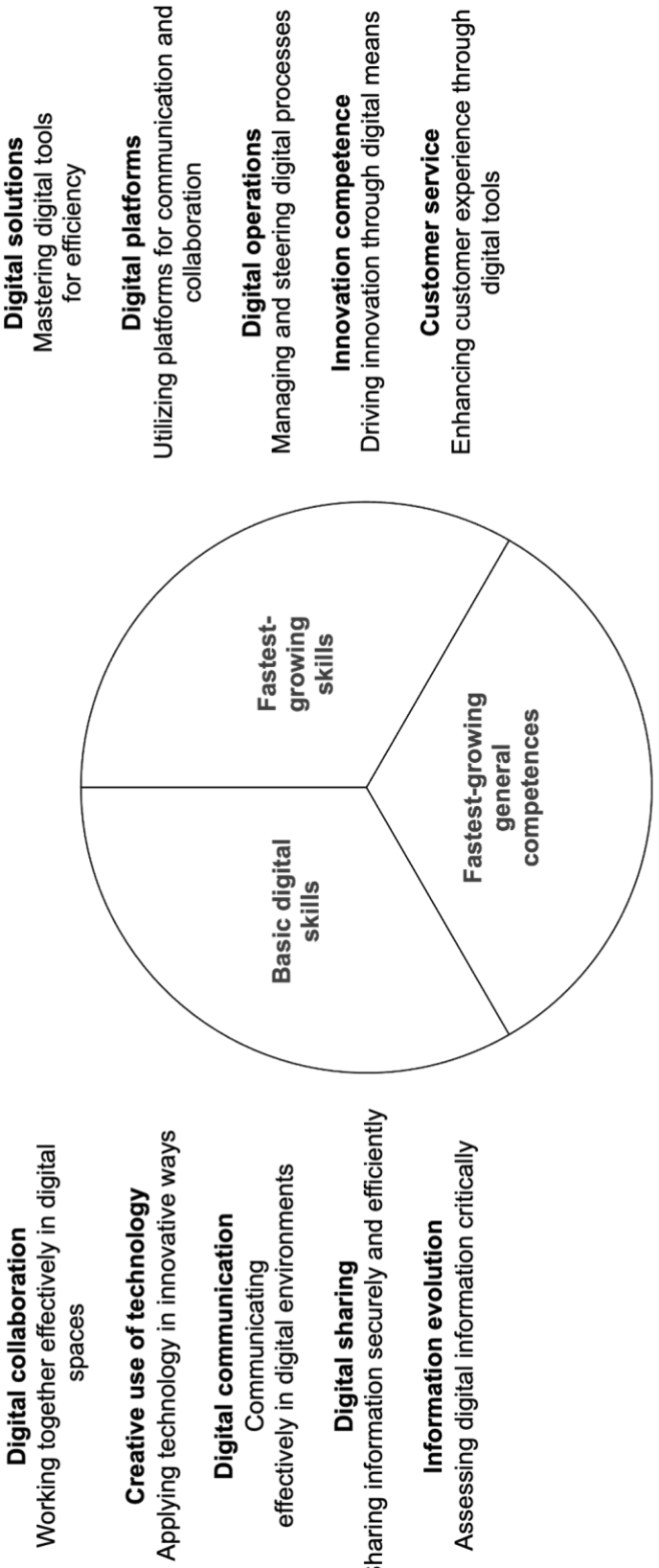

Figure 7 Visual summary used in the interviews

Appendix 4 Declaration of the use of generative artificial intelligence

Generative artificial intelligence was used as a support tool in writing this thesis, within the guidelines of Turku School of Economics (Table 6). AI-based tools were used as supportive tools and all analytical content, interpretations and written arguments have been originally produced by the author or appropriately cited from other authors. The work of other authors was not processed in AI-based tools as such, due to copyrights. Except for the transcription of the interviews using an AI-based transcription tool provided by the University of Turku and grammatical refinement, no personal or other sensitive data was processed using AI-based tools. Whenever possible, AI was used in a closed environment provided by the University of Turku.

Table 6 Responsible use of AI

Criteria	Key principle	How applied in this study?
Using AI in information searching	• Choosing suitable tools • Evaluating critically the content generated by AI • The usage of AI as a support tool	• AI as a supportive tool • No analytical content was generated with AI
Copyright and creative commons licenses	• Ensuring compliance with copyrights	• The work of other authors was acknowledged and cited appropriately
Transparency, reporting and referencing AI use	• Being open about the use of AI • Ensuring compliance with references	• Description of AI use • The work of other authors was acknowledged and cited appropriately
Privacy and data protection in AI tool use	• Paying attention to the sharing of personal data • Working with closed AI environments	• Responsible handling of personal and sensitive data • Whenever possible, working with closed AI environments

The following AI-based tools have been used in this study to support the research process, in accordance with responsible AI use guidelines.

ChatGPT (ChatGPT 5.2)

In this thesis, ChatGPT was mostly used for two purposes: to brainstorm and to standardize language. For brainstorming, ChatGPT was mainly used before starting the writing process and the possible topics were explored by using, for example, the following prompt:

> *"In my master's thesis, I'd like to examine the significance of human capital in international business in future, what kind of perspectives could there be on this topic"* (15.9.2025)

During the writing process, ChatGPT was mainly used to standardize language and to spot grammatical errors, with for example the following prompts:

> *"Is this grammatically correct: continue evolving rapidly"* (4.3.2026)

> *"Is this grammatically correct: Company sees itself as a pioneer; even if no other company has done something yet, it may be a great opportunity to be among the first ones to try something and see where it leads."* (13.3.2026)

Microsoft Copilot (GPT-5.2)

In this thesis, Microsoft Copilot was accessed through University of Turku and thereby used within a closed environment. Microsoft Copilot was used mainly for the same purposes as ChatGPT. In addition, it was also utilized during the data analysis process, as all first-order concepts developed from the data were reviewed with its assistance. Since nearly 200 concepts were initially generated, Microsoft Copilot was used to identify overlapping or similar codes, resulting in the final 106 first-order concepts. However, no sensitive data was provided to the AI at any stage, and the output generated by AI was limited to identifying overlapping or similar codes.

DeepL (language model: Next-gen)

In this thesis, DeepL was utilized for translating text from English to Finnish for a better understanding or from Finnish to English to produce more fluent text.

Grammarly

This AI-powered language assistant, used as a Microsoft Word add-in, was used in the proofreading of the final draft of this thesis for grammatical errors only, such as spelling mistakes. No text was generated with Grammarly.

AI-based transcription service (https://transcribe.utu.fi)

All of the interviews were audio-recorded and transcribed into text files using an AI-based transcription service provided by the University of Turku. According to University of Turku, files uploaded to the service are not transferred to any third-party services or used for any other purposes and files uploaded to the service are deleted after the transcription is completed.

The use of AI-based applications developed for scientific information retrieval

In this thesis, AI-based applications developed for scientific information retrieval, namely the **research assistant in Web of Science** and **Scopus AI**, were used to support mainly the compilation of the literature review. The applications provided some useful referenced documents for this thesis, but were mostly used to map key concepts, and in this way to improve conceptual awareness. The search queries included, for example, the following:

"Firm competitiveness in international markets"

"Competence renewal"