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Measuring Strategic Foresight Impact in Global Firms

Master's thesis
in Futures Studies

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| Abstract <p>Strategic foresight is acknowledged as a crucial component in preparing for the complexities of rapidly evolving business environments. The value and benefits of strategic foresight have been extensively studied. The academic field has suggested various models, criteria, and frameworks for evaluating the outcomes of foresight. Nevertheless, a significant gap remains in understanding whether (global) organizations are currently assessing their foresight initiatives and, if so, how they are conducting such assessments. In the era of data-driven decision-making, the longing for empirical evidence and measurable outcomes has become mainstream. Yet, the inherent uncertainty of futures challenges businesses and decision-makers to reconcile traditional metrics with the long-term time horizon and intangible benefits of strategic foresight. A better understanding about the impact of foresight in global firms has the potential to affect not only the credibility of the industry but also the degree to which foresight is utilized in organizations.</p> <p>The study provides information on the current state of foresight assessment in global organizations. It explores the concept of impact, delving into the enablers and challenges associated with assessing strategic foresight. The study investigates the impact creation, focusing on the aspects of how, by whom, and where it is generated. The research builds upon an extensive literature review that delves into existing knowledge within the areas of research interest, supplemented by novel findings. Given the limited evidence in this research area, the study adopts an empirical approach and seeks answers through qualitative inquiry involving twelve semi-structured interviews with corporate foresight leaders (8), consultants (2), and researchers (2). Thematic analysis was employed as the data analysis method to identify patterns and themes resulting in over 450 coded references.</p> <p>The results chapter presents six interrelated themes, highlighting the complexity of assessing the impact of strategic foresight in global firms. The themes explore factors such as organizational structures and patterns, stakeholder collaboration, diversity of thinking, and temporal considerations. Current practices signal a preference for simple metrics over comprehensive frameworks. Ultimately, the analysis emphasizes the multifaceted nature of strategic foresight and the importance and prevalence of qualitative assessment alongside quantitative metrics. The study avoids setting a universal definition for foresight impact and explores the paradoxes involved in evaluating the impact of strategic foresight within global firms. Finally, the study emphasizes the importance of understanding and creating the motivation for measuring foresight impact for a more comprehensive, longer-term assessment.</p> | | | |
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| Abstract | | | |
| <p>Strategisen ennakkoinnin rooli on keskeinen organisaatioiden toimiessa nopeasti muuttuvissa ja kompleksisissa liiketoimintaympäristöissä. Ennakkoinnin hyötyjä on tutkittu laajasti ja tutkijat ovat esittäneet lukuisia vaihtoehtoisia kriteeristöjä ja viitekehyksiä ennakkoinnin vaikutusten arviointiin. Merkittävä aukko tutkimuksessa on kuitenkin edelleen sen ymmärtämisessä, arvioivatko (globaalit) organisaatiot ennakoitavuutta ja jos arvioivat, niin millä periaattein. Datavetoisen päätöksenteon faktojen ja mitattavissa olevien tulosten kaipuu on organisaatioiden arkipäivää. Tulevaisuuksien epävarmuus haastaakin yrityksiä ja päättäjiä sovittamaan mittarit yhteen strategisen ennakkoinnin pitkän aikahorisontin ja aineettomien hyötyjen kanssa. Ymmärrys ennakkoinnin vaikuttavuudesta ja sen arvioinnista globaaleissa yrityksissä voi vaikuttaa alan uskottavuuden lisäksi myös siihen, missä määrin ennakoitavuutta hyödynnetään organisaatioissa.</p> <p>Tutkimus tarjoaa tietoa globaalien organisaatioiden ennakkoinnin ja sen vaikuttavuuden arvioinnin nykytilasta. Tutkimus selvittää vaikuttavuuden käsitettä, sekä pureutuu strategisen ennakkoinnin arviointiin liittyviin haasteisiin ja mahdollistajiin. Tutkimuksessa tutkitaan vaikuttavuuden luomista keskittyen siihen, miten, kenen toimesta ja missä se syntyy. Tutkimus rakentuu laajalle kirjallisuuskatsaukselle, ja olemassa olevaa tietoa täydennetään uusilla tutkimushavainnoilla. Aiemman tutkimuksen määrän ollessa rajallinen, tutkimus omaksuu empiirisen lähestymistavan ja etsii vastauksia laadullisen tutkimuksen avulla. Tutkimus pitää sisällään 12 puolistrukturoitua haastattelua yritysten ennakoitajien (8), konsulttien (2) ja tutkijoiden (2) kanssa. Aineistoanalyysimenetelmänä käytettiin temaattista analyysiä, jonka tuloksena oli yli 450 koodattua viittausta.</p> <p>Tulosluvussa esitellään kuusi toisiinsa liittyvää teemaa, jotka avaavat strategisen ennakkoinnin vaikuttavuuden arvioinnin moniulotteisuutta globaaleissa yrityksissä. Teemoissa tutkitaan muun muassa organisaatorakenteita ja -kulttuuria, sidosryhmäyhteistyötä, ajattelun monimuotoisuutta ja ajallisia näkökohtia. Nykyiset käytännöt viestivät yksinkertaisten mittareiden suosimisesta kattavien kehysten sijaan. Analyysi korostaa viime kädessä strategisen ennakkoinnin moniulotteista luonnetta sekä kvalitatiivisen arvioinnin merkitystä ja yleisyyttä kvantitatiivisten mittareiden rinnalla. Tutkimuksessa vältetään asettamasta yleispätevää määritelmää ennakkoinnin vaikuttavuudelle ja pohditaan jännitteitä, jotka liittyvät strategisen ennakkoinnin vaikuttavuuden arviointiin globaaleissa yrityksissä. Tutkimus korostaa ennakkoinnin vaikutusten mittaamisen taustalla olevien motiivien ymmärrystä mikäli mittaamista halutaan tehdä pidemmällä aikavälillä.</p> | | | |
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1 Introduction

Modern business environments are characterized by fundamental uncertainty due to factors such as disruptive business models, rapid technological developments, globalization, and geopolitical tensions. Given the inherently uncertain nature of futures, organizations and business professionals around the globe are faced with a challenging task of making decisions that ensure future prosperity (Jissink et al., 2014). Extensive amount of research has underscored the value and a vast variety of benefits of strategic foresight as a tool for navigating complexity and uncertainty (See e.g., Pezzulo & Rigoli, 2011; Rohrbeck, 2012; Rohrbeck & Schwarz, 2013; Shallowe et al., 2020; Vecchiato, 2015). Moreover, the academic field has suggested various models, criteria, and frameworks for evaluating the outcomes of foresight (See e.g., Hines, 2016; Piirainen et al., 2012; Rohrbeck, 2011; Rollwagen et al., 2008; Thompson Coon et al., 2021). Nevertheless, a significant gap remains in understanding whether (global) firms are currently measuring their foresight initiatives and, if so, how they are conducting such assessments.

In general, foresight activities in organizations are often hidden from extra pairs of eyes. The sensitivity of futures-related information limits external access, including that of researchers, to the specifics of foresight activities within organizations (Thom, 2010). While there's a lot organizations are not sharing, the question of how foresight work is or should be assessed seemed to be a challenge shared across the industry. Organizations have growing expectations that foresight will lead to greater profits (Rhisiart et al., 2017). Further, due to the prevailing trend of data-driven decision-making, a growing demand for empirical evidence and measurable outcomes exists in the assessment of strategic foresight. A more comprehensive understanding of how strategic foresight and its impact is measured in global firms not only enhances industry credibility but also has the possibility to influence the degree to which foresight is integrated into organizations.

1.1 Research objectives and questions

The thesis aims to add new empirical evidence and increase the understanding of if and how the impact of strategic foresight work is measured in global firms. It aims to shed light on the potential benefits and challenges of the measurability of strategic foresight.

It examines how, by whom, and where the effectiveness of strategic foresight is created. The following objectives have been set to facilitate the achievement of this aim:

1. *To conduct a literature review on strategic foresight, and evaluation and assessment practices related to it to form an understanding of the current state of understanding of the issue.*
2. *To perform qualitative empirical research using thematic analysis to*
 - i) *observe how impact is understood in the context of strategic foresight.*
 - ii) *identify the barriers and facilitators of foresight and the measurement of its impact.*
 - iii) *determine what kind of strategic foresight impact measurement structures and practices exist in global firms.*
3. *To synthesize empirical research findings and identify current practices for measuring strategic foresight and its impact.*

The following research questions serve as a guiding light for research and a lens through which literature is viewed:

RQ1: What is impact on the scope of strategic foresight?

To facilitate the discussion related to the first research question, it is crucial to understand how impact is perceived in the context of strategic foresight. Preliminary answers to RQ1 are sought from previous literature. In addition to that, the participants' views on the matter are mirrored with the existing research.

RQ2: What are the barriers and enablers of impactful strategic foresight in global firms?

The reasoning behind the second question is that the better we understand the barriers, and enablers of foresight and its assessment, the better we can adapt and respond to them. The second question examines the subject both in a more general sense from the perspective of foresight, and from the perspective of foresight assessment. The literature review provides a foundation on which to build understanding with the novel findings of this research.

RQ3: How is strategic foresight impact measured in global firms?

The third research question is set to understand how is strategic foresight assessment and foresight impact measurement in global organizations done, if at all? The third question is explored through first creating an understanding of what frameworks and models have been developed and proposed by previous literature. In addition, literature review investigates what is known about impact measurement in the context of strategic foresight. Empirical material complement knowledge by investigating the current practices of global firms.

This thesis does not have the aim of creating any new proposed frameworks for foresight impact assessment. Rather, it investigates practitioners' experiences, information on current practices as well as opinions and views of the market demand for systematic methods for impact assessment. By investigating the three research questions, the thesis aims to gain insight into if and how impact of strategic foresight is or should be assessed in global firms.

1.2 Research rationale and relation to futures studies

On the verge of drafting this thesis, the relevance of understanding what can be achieved with foresight work has become evident. The interest in assessing strategic foresight work within the futures field has remained throughout the thesis process. For example, the April 2023 issue of *Compass*, magazine produced by APF (Association of Professional Futurists) highlights the work that the Evaluation Task Force had been conducting during the recent years to develop evaluation capabilities within the foresight and futures field. UNESCO's Symposium in June 2023 was "addressing the need to better understand and use futures literacy and foresight, by focusing on assessment and evaluation frameworks for the impact of futures work" and called for papers in May 2023. Together with his team and research partners around the globe, René Rohrbeck is conducting the largest academic study on future preparedness of organizations called *Global Future Fitness Study 2023*. World Futures Studies Federations 50th World Conference in Paris called for papers addressing measuring impact and action as one of the key themes. The topic of foresight evaluation was also present in the Dubai Future Forum in 2023.

Although organizations evolvingly need continuous foresight capabilities to enable systemic and dynamic foresight practice (Ahlqvist & Kohl, 2016), one should avoid it

becoming a necessity. Foresight activities should not be applied only to tick a box off the list of process faces but instead be seen as an opportunity to explore, learn and widen the perspectives on alternative futures. The foresight function's role, the expectations set by the organization, and how its impact is assessed can all play a critical role in directing the impact of the work. The demand for answers both among researchers and practitioners is evident and acknowledges the growing pressure to meet the expectations of organizations. Thus, the aim of the thesis is two-fold - to offer both academic and managerial contributions.

KONE Oyj commissions this thesis. Kone is a global elevator and escalator industry leader and a driver of innovation for smart and sustainable urban development (KONE, 2023).

1.3 Structure of the Thesis

This section outlines the thesis structure, providing brief insights into each chapter's content and its contribution to the overall exploration of the research topic.

The first chapter provides an overview of the research objectives, questions, and rationale, highlighting the relevance of the study to futures studies and foresight field. The second chapter lays the theoretical background for the study and delves into the theoretical underpinnings of strategic foresight, exploring its history, role in global firms, and the value and impact it offers to organizations. It also discusses the challenges of measuring the impact of strategic foresight and presents existing frameworks for assessment of foresight and futures research. The third chapter outlines the research methodology, including literature review and semi-structured expert interviews. It discusses the data analysis approach and addresses both the limitations and integrity of the research. The fourth chapter presents the results of the thematic analysis process, identifying six key themes related to strategic foresight and its assessment in global firms. The fifth and last chapter discusses the findings in detail, addressing each research question and drawing conclusions based on the analysis. Practical implications, research validity, and suggestions for further research are also provided.

2 Theoretical background

The thesis delves into the assessment of strategic foresight's impact on global firms, combining findings from a qualitative study with existing literature evidence. Chapter two provides an overview of current research and knowledge, establishing theoretical foundations. First, we explore the role of strategic foresight in global firms. Second, we investigate the value and impact of strategic foresight that previous studies acknowledge. Third, the chapter presents existing frameworks and models of evaluation and assessment of strategic foresight.

2.1 Strategic foresight

Strategic foresight, organizational foresight, corporate foresight, technology foresight, and foresight. There are many terms to describe forward looking activities in organizations, as researchers continue to debate the definition and terminology of foresight (see e.g., Coates et al., 2010; Rohrbeck et al., 2015; Slaughter, 1997; Vecchiato & Roveda, 2010). While some scholars and researchers use these terms interchangeably, others make a distinction between them. For example, Rohrbeck (2011) suggests that the usage of “*corporate*” instead of “*strategic*” emphasizes stronger organizational focus. Today, the variety of versions of the term “foresight” are frequently referenced in both literature and everyday discourse. This discrepancy in the usage of terminology might challenge the formation and commonly shared consensus of the concepts around foresight, and further, the application of those. For the sake of clarity and simplification, the term “strategic foresight” is used in this thesis to refer to these concepts, since it is the most used broad term within researched literature for forward-looking activities in organizations. Also, “foresight” is used as a shortened version to reduce repetition.

Rohrbeck et al. (2015, 2) gives following definition for foresight:

“Corporate foresight permits an organization to lay the foundation for future competitive advantage. Corporate Foresight is identifying, observing, and interpreting factors that induce change, determining possible organization-specific implications, and triggering appropriate organizational responses. Corporate foresight involves multiple stakeholders and creates value through providing access to critical resources ahead of competition, preparing the organization for change, and permitting the organization to steer proactively towards a desired future.”

The approach to foresight rests on three key principles: the acknowledgment of multiple possible futures, the identification and study of drivers of change, and the belief in the ability to influence the future (Berger (2008) in Rohrbeck et al., 2015). Furthermore, strategic foresight refers to practices that help organizations gain a competitive advantage in future markets (Rohrbeck & Kum, 2018). Contemplating the future can provide valuable insights into potential futures, enabling us to anticipate, recognize and respond to changes critical for organizations success (Rohrbeck, 2011). Organizations that are flexible and adaptable tend to perform better in the long-term, as demonstrated by research (Rohrbeck & Kum, 2018, p. 105). On the other hand, welcoming the futures to be explored creates ambiguity and reveal uncertainty (Hines & Bishop, 2006).

One can refer to foresight as a one-time activity or as an ongoing process within an organization (Carlson, 2004). Strategic foresight activities stand out from other business practices due to interest in long-term futures and various time horizons are used in foresight. Long-term time frames may vary from five to over twenty years depending on the industry (Vecchiato & Roveda, 2010).

The significance of strategic foresight as a crucial element of effective strategic planning for organizations has been acknowledged for decades (see e.g., Iden et al., 2017; Rohrbeck et al., 2015; Slaughter, 1997). Faced with the VUCA (volatile, uncertain, complex, and ambiguous) environment, strategic foresight can guide organizational decision-making. This acronym describes the constantly changing and unpredictable nature of the business environment. Yet, volatility and uncertainty has longer traditions than different acronyms that have been created to describe the changing business landscape. The next section discusses the history of strategic foresight in brief.

2.1.1 A brief history of strategic foresight

Throughout history, people have always been curious about what the future holds (Cuhls, 2003). Some claim that the history of foresight can be traced all the way back to 1920's (Amsteus, 2012). Hines (2020) proposes that the origins of the foresight field are in the year 1945, when RAND story began. At RAND Corporation, pioneers Herman Kahn, Theodore Gordon, and Olaf Helmer advanced foresight methodologies, with the Delphi method and the scenario method being the most prominent among them (Rohrbeck et al., 2015). The controversy over the proposed starting date seems understandable, since the field is still debating what to call itself (Hines, 2020), as described above.

Adapting military forecasting methods to business contexts made the field of research popular in the 1950s and 1960s. Notable works on the field of foresight, such as Gaston Berger's "La prospective" (1957) and Herman Kahn's (1967) "scenario planning" signaled an emerging trend. Initiation of the Shell scenario program at early 1970's and its success inspired other organizations to follow and apply scenario-based planning approaches (Rohrbeck et al., 2015, p. 3). Scenario planning remains one of the most prominent and used foresight methods today.

In the 1980s and 1990s, industries experienced significant changes with increased globalization and competition. Firms, facing challenges to maintain a competitive edge, embraced innovation and organizational learning. Strategic foresight evolved from supporting long-range planning to aiding strategic decision-making and innovation management. This shift led to the development of new futures methods like technology road mapping. Companies established units and think tanks to inform planning and drive innovations, emphasizing continuous scanning and interpretation for ongoing foresight processes. (Gordon et al., 2020, pp. 4–5).

Since the millennium, the popularity of foresight has continued to grow. A clear reference to this is also the increase in futures and foresight training around the globe over the past decades (Gary, 2019). Additionally, over the past decades, Panizzon & Barcellos (2019) suggest that foresight has jumped into the digital age of access and empowerment and has deployed foresight tools that enable predictive analytics.

As described above, over time, strategic foresight has evolved into a variety of perspectives, ranging from process view to capability view and to a culture and social practice integrated into practices of an organization (Appiah & Sarpong, 2015; Georghiou & Keenan, 2006; Hines & Gold, 2015; Rohrbeck & Schwarz, 2013). What it is today is in constant flux. One reason for this is the multiplicity of objects it serves in different spheres of business, policy, and goals in general. While there has been a great deal of research on foresight, little has been done to incorporate foresight with strategic planning processes, innovation, and operational activities (Gordon et al., 2020). The following section gives an overview of what is known about strategic foresight practices in global firms.

2.1.2 Strategic foresight in global firms

Undertaking futures work within organizational settings, as highlighted by Hines (2003) is a demanding task. Yet, it is also regarded as crucial for organizations long-term success (Van der Duin et al., 2014). As any activities in corporate setting, foresight competes for the scarce resources available including money, attention, and time (Hines & Gold, 2015). This complexity is further amplified when operating on a global scale, introducing legalities and practices that pose challenges for foresight leaders and practitioners. Loveridge (2009) notes that international organizations aiming to engage their members face institutional limitations, often stemming from organizational structures and silos, common features in large, globally operating entities. The same structures that are designed, for example, for distributing the work and responsibilities, are also a hindrance for foresight work as complex hierarchies slow down decision-making (Nestik, 2018). Rohrbeck et al., (2015), on the other hand, names ambiguous terminology, weakly organized academic field, and weak linkages with general management journals as main challenges for increasing understanding and practice of strategic foresight in corporate settings.

Despite these challenges, strategic foresight has been conducted in global organizations and awareness is constantly growing. Report suggests that more than 90% of the largest US and European organizations already use foresight approaches while a third have business units responsible for it (Buder, 2020). However, research knows relatively little about these firms and the practices within. Two key points require consideration in this context before further exploration. Firstly, the sensitivity of futures-related information limits external access, including that of researchers, to the specifics of foresight activities within organizations. Consequently, publicly available examples provide only a glimpse into the existing efforts, methods, and results. Secondly, each organization is unique, encompassing diverse approaches, structures, tools, goals, and outcomes in its foresight endeavors. (Thom, 2010). While certain overarching characteristics distinguish global and multinational enterprises from SMEs and domestic actors in the market, generalizations are challenging due to this diversity (Thom, 2010).

One factor distinguishing global enterprises from other market actors is the availability of resources. Establishing a viable foresight function demands significant investments in cost, time, and organizational efforts, making it feasible primarily for relatively large

corporations (Bereznoy, 2019). Bereznoy (2019) states that foresight functions are fundamentally set up by global enterprises due to their objective need to have their own "early warning" system that can identify emerging market opportunities and potential threats. Research by Vecchiato (2012a) suggests that in the settings of well-established global industries, the factors driving change are typically found in the broader, macro environment. These forces are so extensive, numerous, and interconnected that even enterprise-level global industry players have little to no control or influence over them (Vecchiato, 2012a). Therefore, it is no surprise either, that there is interest in internal capabilities to generate knowledge related to operating environment in a broader sense. Foresight is considered an answer to the growing uncertainty. At the same time, there are growing expectations that foresight will lead to greater profits (Rhisiart et al., 2017).

Ruff (2015) argues that internal foresight units of multinational companies can leverage a competitive edge over external services since they provide the generated knowledge only to the organization itself. Internal units have a deep and continuous understanding of the company's business logic. Unlike selective assignments of foresight consultants, a corporate foresight unit can combine a broad scope of knowledge about business environments across business units. (Ruff, 2015). But having foresight capabilities within organizations is not a panacea against making critical strategic errors.

2.2 Value and impact of strategic foresight

The desire to evaluate foresight work has existed for nearly as long as the foresight field. Still, the field has not developed a systematic approach to assessing its work. (Gardner & Bishop, 2019). There are a variety of studies seeking to describe and understand the value contribution of strategic foresight, demonstrating its benefits across various sectors and fields (see e.g., Calof & Smith, 2012; Chermack, 2004; Gardner & Bishop, 2019; Ramírez et al., 2013; Rohrbeck, 2011; Rohrbeck & Schwarz, 2013; Wright et al., 2008). For example, Rohrbeck & Schwarz (2013, p. 1604) suggest that if strategic foresight activities are formalized, organizations can expect (1) an enhanced perception, (2) an enhanced ability to interpret change, and (3) an enhanced ability to propose responses, together with (4) an enhanced capacity for organizational learning and influencing others.

The benefits of applying foresight include, for example, enhanced decision-making (Amanatidou, 2014; Carlson, 2004; Rohrbeck & Schwarz, 2013; Slaughter, 1990) and innovation capabilities (Meissner, 2012; Ramírez et al., 2013; Ruff, 2015), knowledge

creation and organizational learning (Amanatidou, 2014; Amstéus, 2011; Piirainen et al., 2012; Rohrbeck & Schwarz, 2013), better resilience (Shallowe et al., 2020) and ability to mitigate risks (Slaughter, 1990). Vecchiato (2012a) suggests that main contribution that foresight efforts bring to strategy formulation lies not in predicting the future, but rather in the learning process of preparing the managers to handle the future based on predictions. Additionally, longitudinal study by Rohrbeck & Kum (2018) suggests that long-term performance of a firm can be improved by foresight. The list of benefits above is not all-encompassing by any means, but rather an illustrative example of the wide-ranging possibilities of the value foresight has been proven to bring to organizations.

At the same time, there is criticism appointed (see e.g., Iden et al., 2017; Vecchiato, 2012) that springs from the absence of evidence to support strategic foresight's contribution to sustained advantage and the inability to clearly define the value and to demonstrate its impact. On the other hand, identifying the impact of foresight activities is not straightforward (Jissink et al., 2014). Rohrbeck & Schwarz (2013) proposes that the ambiguous and underestimated value foresight work delivers may be one of the reasons for organizations' reluctance to adopt corporate foresight, thereby restricting its implementation. Simultaneously, it can be argued that the most easily measurable aspects may not be the most important ones to assess. Within the foresight domain, the differentiation between tangible product outputs and intangible process benefits of activities is often linked to this concept (Gardner & Bishop, 2019). Also, it can be challenging to access information on practical approaches and outcomes of foresight endeavors in for-profit companies, which adds to the difficulty of the task. Foresight activities often occur in a confidential setting due to the competitive nature of perceived information about the futures (Daheim & Uerz, 2008).

Vecchiato (2012, p. 784) suggests that the skepticism within the research field stems from the lack of more general existence of foresight in university curriculums today and the limited number of papers on anticipatory studies in corporate organizations published in leading academic journals. Loveridge (2009) on the other hand, suggests that foresight activity has paid too little attention to the context in which it takes place and to the integration of its ideas. Most foresight activities face similar problems, including balancing output realization with methodological rigor, choosing appropriate tools, and linking results to today's decision making (Daheim & Uerz, 2008). The next section takes a closer look into what impact is in the context of strategic foresight.

2.2.1 What is strategic foresight impact?

In today's world, making a meaningful difference is a common strive. Demonstrating impact is crucial whether it is the actions of an individual, organization, or government. Practitioners and agencies have become increasingly aware of "impact" and "impact evaluation," and these terms have gained more and more popularity since the early 2000s (Hearn & Buffardi, 2016a). In general, notable rise in the use of the term "impact" within research can also be seen in the number of research articles published yearly in Scopus, increasing from 3,700 in 1990 to over 83,000 yearly papers in 2022 (Scopus, 2023).

The term impact can be used in a variety of ways. By considering the usability of the word "impact" it becomes apparent that it can function as both a verb, indicating the effect of something, and as a noun, indicating the result or consequence of an action or event. The definition of impact varies between organizations and individuals, and various aspects may hold varying importance to them (Hearn & Buffardi, 2016).

The meaning of the term impact has proven to be notoriously hard to define. Hearn & Buffardi (2016) argues that 1) when referring to impact, it should not be assumed that others share the same understanding of the term and 2) the interpretation of impact significantly influences how it is managed and evaluated. With this notation in mind, it is not expected that literature alone can be used as a way of forming a comprehensive picture of how impact is and should be understood in the context of this study. Yet, to lay some theoretical foundation, the current understanding and use of impact as a concept and term in the context of strategic foresight research and literature is further explored.

One broad definition for impact goes as follows: "Positive and negative, primary and secondary long-term effects produced by a development intervention, directly or indirectly, intended or unintended -- also widely used in a more comprehensive sense that includes both short-term and long-term effects." (OECD DAC Network, 2002). This definition underlines the vast scope and ambiguity related to the concept. The second edition of the OECD Network publication defines impact more briefly: "The extent to which the intervention has generated or is expected to generate significant positive or negative, intended or unintended, higher-level effects" (OECD DAC Network, 2022). Interestingly, from the futures point of view, the more recent version does not make a distinction on the time frames of impact on an equivalent manner with the previous version.

Schartinger et al. (2012 p.44) outlines that foresight generates impact through two primary mechanisms: firstly, by generating tangible products like reports that can influence subsequent decision processes, and secondly, through the actions taken by participants involved in the foresight process. This rather simple division does not tell it all and some scholars have aimed to further enhance the conceptual clarity of impact within foresight.

Johnston's (2012 p. 62) research that is aimed at developing impact assessment capabilities within foresight divides impacts to four categories: 1) awareness raising, 2) informing, 3) enabling and 4) influencing. In short, these include increasing target audience awareness about the importance of foresight in addressing future challenges, providing conceptual and empirical inputs for better planning and decision-making, enhancing the capacity to deal with future uncertainties, and influencing various outcomes such as policies, laws, standards, business strategies, and public attitudes.

Another strategy employed to mitigate the ambiguity of the concept involves categorizing impact into distinct levels. While acknowledging the inter-relatedness of the levels, Hines (2016) proposes a division into four simplified ones: practitioner, project, organizational and field level. Hines (2016) framework aids in recognizing the specific influence of foresight on diverse levels. For example, an individual's performance may be evaluated at the practitioner level based on how effectively they perform their duties. The assessment may also look at proficiency with specific techniques, methods, or activities, as well as their tool kit. Overall, this division may help in acknowledging the diverse ways foresight can bring about change and improvement, fostering a holistic understanding of its potential impacts.

Yet another example of structuring impacts for measurement is to distribute measures across different lenses or groupings (J. Smith, 2012). Smith's (2012) fifty-four measures, divided in seven groupings offers lenses to assess foresight. The first lens looks at foresight's general role and effectiveness, recognizing its diverse roles. The second set measures general benefits, primarily perceived by those directly involved. Critical success factors form the third set, relevant for process designers and planners. Fourth set views foresight as a meta-level learning process, emphasizing resilience and preparedness. Categories acknowledge foresight's role in training, skills development, risk assessment, uncertainty management, and alignment with design and planning. The

three last lenses mirror the policy cycle stages: pre-policy, policy implementation, and post-policy (J. Smith, 2012).

Calof & Smith (2012), too, identified dozens of different types of foresight impacts in their article. They agree with Havas et al. (2010) that foresight's most significant aspect is how effective it is at influencing decision-making. Further, Calof & Smith (2012, p. 12) found that impactful foresight requires appropriate methodologies, a skilled foresight team, educated and committed stakeholders, effective communications, and managerial capacity. Futures literacy is crucial for individuals to fully integrate and benefit from foresight initiatives (Calof & Smith, 2012). According to Miles (2012), the focus of evaluation should extend beyond simple impacts and instead delve into how the outcomes of foresight are co-produced by the various actors involved in the process. This approach, termed dynamic foresight evaluation, emphasizes the importance of learning lessons from the framing of foresight to maximize its ultimate value (Miles, 2012).

There are attempts to understand the concept, as evidenced by the examples provided. The inherent contextual complexity of the concept makes it interesting from the point of view of this study. In addressing the first research questions regarding "strategic foresight impact", an initial understanding is formed by reviewing foresight literature. Section 4.2 advances this exploration by delving into empirical material, where the definitions of strategic foresight impact are given by the interviewees. However, the important question to raise into discussion at this point is how much we will be able to influence the impacts of foresight work within corporate settings?

2.2.2 (Un)intended impacts of strategic foresight

Engaging with futures serves multiple purposes. The integrated approach welcomes an extensive number of factors in the surroundings that can impact the results. Therefore, for example, Georghiou & Keenan (2006) have proposed that it is impossible to fully assess foresight without considering its surrounding context. The effectiveness of foresight work is typically determined by its achievement of initial objectives and the scale and nature of direct impacts, though these impacts are difficult to measure (Amanatidou & Guy, 2008). Amanatidou & Guy (2008) criticizes this view as lacking, due to its incomplete take on unintended impacts, such as knowledge creation, social capital, and strategy evolution.

But as well as the listed examples of positive impacts, unintended impacts can also be negative. In general, it can be assumed that no organization intends to cause harm. Therefore, Hearn & Buffardi (2016b) considers that negative effects, both foreseen and unforeseen can be assumed to be unintended. When discussing alternative futures, as wide range of changes as possible should be considered to make a reasonable judgment, including the unforeseen factors. Another challenge related to unintended impacts is related to its measurement and metrics setting in the context of foresight. Calof et al. (2012) notes that metrics often cause unintended consequences because the system exploits the metric while losing sight of the side impacts. While limits in terms of metrics might simplify processes, Calof et al. (2012) further suggest that metrics are arbitrary and have the potential to exclude important aspects that can ultimately dominate the problem and determine its outcome.

This section sought to further increase understanding of the complexity of impact and its measurement due to the potential unintended impacts. We must accept that not all impacts are necessarily measurable or identifiable by the means we have chosen to use for a certain purpose. However, it is important to understand whether it is a conscious or unconscious choice to ignore certain things. The next part discusses the current knowledge of impact measurement, evaluation, and assessment within foresight.

2.3 Measuring impact of strategic foresight

“The future is the raison d’être of the present” – Gaston Berger

According to the known father of “La Prospective” school, Gaston Berger, goals we set for ourselves can explain and justify much of our behavior (Godet et al., 2008). 70 years later, today’s business follows the same ideology in its idealization of mantras such as “what gets measured gets done” and “if you can’t measure it, you can’t improve it”. The previous sections have highlighted the complexity of impact in the context of strategic foresight. In this part, knowledge on foresight measurement and evaluation and barriers to foresight impact assessment are discussed. Additionally, this part introduces existing frameworks for foresight and futures evaluation.

The ambiguity and confusion about what ‘impact’ is also extends to how it is measured and what kind of measurement is sufficient. The report by W.K. Kellogg Foundation (1998) emphasizes the increasing demand for effectiveness demonstration and the

prevalence of a research philosophy most suitable for measuring change. Despite the long history of the profession and the long-addressed need for assessing the work, Gardner & Bishop (2019) states that systematic evaluation of the work is still a long way off. As the industry continues to grow, they state that it is increasingly important for foresight professionals to develop a comprehensive approach to assessing their efforts.

That is not an easy task. Nieminen & Hyytinen (2015) point out that while there has been attempts of welcoming complexity to evaluation (see e.g., Forss et al., 2011), there is still a great deal of reliance on linear methods and monitoring practices in current evaluation methods and practices. Following a linear input-outcome-output-impact logic, the complex relationships between human actors and other contributing factors tend to be over-simplified (Nieminen & Hyytinen, 2015). Van der Sluijs et al. (2005) notes that while quantitative methods play a crucial role in addressing uncertainty, the limitation lies in the fact those can only accommodate aspects that can be credibly quantified. Popper (2008, p. 52) names the lack of credible information about the future as the reason for why qualitative approaches are often applied within futures research.

The classic criteria by Georghiou & Keenan (2006) for evaluating foresight activities includes three aspects. Firstly, the efficiency of implementation (process evaluation), focusing on managerial aspects and logistical issues. It addresses questions about organizational dynamics, decision-making linkage, and the appropriateness of methods. Impact and appropriateness criteria examine outputs and outcomes, emphasizing that outputs alone do not measure significance. Appropriateness as a criterion involves assessing the rationale and policy-level considerations and exploring alternatives. (Georghiou & Keenan, 2006, p. 769). Afanasyev et al. (2014), on the other hand, suggests evaluating foresight work by its effectiveness, efficiency, and validity. Overall, the importance of evaluating the impact foresight efforts can generate is highlighted by a number of scholars (see e.g., Havas et al., 2010; Makarova & Sokolova, 2014; J. Smith, 2012).

Previous research also notes that success of forward-looking work is often evaluated based on accuracy of future predictions (Hines, 2016). The problem is that this approach reinforces the tendency to seek single-point forecasts or predictions. This, in turn, contradicts the key foresight principle of considering multiple plausible futures (Bishop & Hines, 2012). Rohrbeck (2012) suggests that although looking at the predictions can

help in improving practices, the more crucial factor to study is the impact and value futures research can create.

2.3.1 Barriers for strategic foresight impact assessment

While futures field still disagrees on many of the foundational ideas and concepts, they generally seem to share understanding of at least one thing: the difficulty of evaluating foresight. A recent study made by APF (2022) surveyed the greatest challenges in implementing foresight evaluation. Firstly, the survey recognized lack of resources such as time and money. Additionally, the lack of experience and knowledge on evaluation and choosing, collecting, and analyzing data was named as a challenge. Ultimately, the study suggests that it is the lack of interest in evaluation and its results that also hinders the implementation. (APF, 2022, p. 18).

Previous research has identified several other factors that makes impact assessment of foresight challenging. Firstly, the foresight frameworks vary from company to company (Thom, 2010). This means, that comparison of activities or using similar assessment methods between organizations might not be possible or viable. Additionally, foresight practices constantly evolve within the organization. The findings of Makarova & Sokolova (2014) support this finding noting that the main challenge in developing foresight evaluation methodology is to consider a wide variety of foresight projects with differently oriented aims, methods, and impacts. As an example, Thom (2010) notes that when technology, competition, consumer behavior, legislation, and regulation evolve, Deutsche Telekom employs varying methods and tools to stay abreast of the latest developments. To evaluate each type of foresight study, a specific methodology needs to be developed (Makarova & Sokolova, 2014).

A study by Wright et al. (2008) suggests that the management team's willingness to debate strategy alignment with the operation environment is a key for success in creating scenarios, finding indications of defensive avoidance behavior to lead to unwillingness to engage in debate regarding alternative futures, which can further create a barrier for implementing foresight. The study further suggests that overcoming strategic inertia is often a psychological challenge for organizations (Wright et al., 2008). But when we talk about alternative futures, we often talk about things unknown for the majority. Study by Schwarz et al. (2020) suggests that when decision-makers are trained in forward looking

thinking, they are more likely to be able to deal with uncertain environments. Also, it is possible to try to be prepared for this type of behavior before engaging stakeholders. For example, Calof et al. (2012) recommend fostering a receptive climate and adopting a planned approach to get stakeholders to act upon information related to futures. Calof et al. (2012 p. 89-90) suggests ten questions exploring the operating environment, including questions such as “*How does strategic foresight fit into my existing environment?*”, “*What are the risks and how can they be overcome?*”, “*Who will gain or lose through this proposal?*” and “*What positive and negative consequences are likely if a strategic foresight prog succeeds or fails?*”. By considering these questions beforehand, potential resistance is considered in advance. These are not direct obstacles to evaluating the impact. The real obstacle is in how we measure, for example, people's ability to think for alternative futures or to question their own thinking, if that is what the work is aimed at?

One of the potential barriers relates to the facilitator of the process. In this case, it could be an organization's foresight unit. Carlson (2004) lists the capabilities the foresight process owners must possess, including technical competence, professional respect, ability to moderate diverse views and remain neutral on future opportunities, synthesize group outputs, maintain process discipline, collaborate with management, and translate outputs for the business community. There is a lot more to this than meets the eye. The question is, do foresight experts have the skills to measure and evaluate their own work? And even if they do, do they have the resources to do it?

Piirainen et al. (2012) suggests that the practicality of evaluating foresight projects hinges on timing, whether it is ongoing from the project's start or done retrospectively. Continuous evaluation, integrated with research design and management, resembles a life-cycle approach. Post hoc evaluation has limited impact, mainly recognizing design choices' effects. The evaluator's position, especially for external evaluators lacking complete data, raises concerns, particularly regarding ethical aspects of assessment. (Piirainen et al., 2012)

Van der Steen & Van der Duin (2012) lists quality, success, and impact as components of foresight evaluation. This means that foresight should be methodologically and professionally solid, it should be accurate to a certain degree, and it should contribute to strategic decision making (Van der Steen & Van der Duin, 2012). In the field of foresight, however, succeeding in one of the components do not ensure success with another

component, which creates yet another barrier for impact assessment. Methodologically rigor and high-quality work might end up with zero impact. Likewise, if decision-making is based on futures-related information that is not relevant to the business in question, impact might be created, but it is not as desired. Faced with this level of complexity and nonlinearity, how should one evaluate whether strategic foresight work has had an impact and whether the impact was as preferred?

One more obstacle is that foresight practitioners typically develop methodologies and conduct foresight exercises without influencing the implementation of their results. The ones ordering the project are rarely able to contract further research aimed at implementing results. (Poteralska & Sacio-Szymańska, 2014). As a result, developed frameworks may not be tested and their suitability for practical use is not recognized.

2.3.2 Frameworks for foresight and futures assessment

When reviewing past studies, it is clear that various efforts have been made to establish frameworks, models, and criteria for evaluating foresight and assessing its impacts. Although there are successful examples and numerous research papers on evaluation activities, foresight evaluation remains a relatively young scientific field. However, the substantial practical attempts to evaluate foresight indicate a pursuit of developing systemic models. Being a relatively new function in many organizations, investments in foresight activities are often under the magnifying glass, and the benefits of foresight must be demonstrated. There is currently no information available related to whether any of the frameworks developed are used by companies to identify and verify impacts and benefits of the work.

This thesis is also interested in understanding whether any framework or criteria have been implemented in sample organizations. Familiarization with existing frameworks and schemas is considered relevant for the work to gain comprehensive understanding on the current state of the models available. Table 1 presents an overview of proposed assessment frameworks and models within futures and foresight research. These examples represent different domains and use cases ranging from organizational, policy and project focus to individual futures consciousness.

Table 1. Assessment frameworks within futures and foresight

| Framework | Year | Author(s) | Domain |
|---|-------------|--------------------------------|--------------------------|
| Evaluation of national foresight activities: Assessing rationale, process and impact | 2006 | Georghiou & Keenan | Policy |
| Criteria for improving impact of foresight studies | 2008 | Rollwagen, Hoffman & Schneider | Organization |
| An impact assessment framework for foresight systems capable of enhancing a more participatory 'knowledge society' | 2008 | Amanatidou & Guy | Society |
| Developing the evaluation framework of technology foresight program: Lesson learned from European countries | 2009 | Li, Kang & Lee | Policy |
| Corporate Foresight Maturity Model for the Future Orientation | 2011 | Rohrbeck | Organization |
| A framework to classify the impacts of foresight | 2012 | Johnston | Policy |
| Assessment criteria national foresight studies | 2012 | Meissner | National foresight |
| A systemic evaluation framework for futures studies | 2012 | Piirainen, Gonzales & Bragge | Futures studies |
| Foresight evaluation criteria | 2014 | Makarova & Sokolova | Project management |
| A Framework to classify impacts of foresight activities | 2014 | Poteralska & Sacio-Szymańska | National foresight |
| Evaluating Complexity | 2014 | Preskill & Gopal | Social change |
| Future-Oriented Impact Assessment: Supporting Strategic Decision-Making in Complex Socio-Technical Environments | 2015 | Nieminen & Hyytinen | Policy |
| The Foresight Outcomes Framework | 2016 | Hines | Organization |
| Futures Consciousness Test | 2018 | Ahvenharju, Minkkinen & Lalot | Individual |
| A Three-Level Evaluation Process of Cultural Readiness for Strategic Foresight Projects | 2019 | Panizzon & Barcellos | Organization [project] |
| Impact Evaluation Framework | 2019 | Vataja, Dufva & Parkkonen | Policy |
| An integrated approach to the evaluation of CF projects | 2022 | Sokolova & Vishnevskiy | State-owned organization |

The table listing numerous studies and perspectives on foresight and its evaluation reveals several key insights into the field. As shown in the table, there are multiple examples of research that has evaluated foresight and futures work specifically concentrating on individual projects or processes (Amanatidou & Guy, 2008; Georghiou & Keenan, 2006; Miles, 2012; Panizzon & Barcellos, 2019; Poteralska & Sacio-Szymańska, 2014). There are also attempts to identify and quantify foresight impacts in the policy context (see e.g., Calof & Smith, 2012; Da Costa et al., 2008; Vataja et al., 2019b). There is also a test for assessing an individual's future orientation (Ahvenharju et al., 2018). Followingly, there has also been attempts to mathematically measure the value of foresight. For example, Pezzulo & Rigoli (2011) analyzed cognitive functions, motivations, and emotions to predict how prospection affects decision-making. The researchers suggest that the anticipation of future cognitive processes influences decision-making in two ways: first, future outcomes are valued according to their internal context at the time they occur; second, future internal states are treated as outcomes, so a value is attached to them as well (Pezzulo & Rigoli, 2011, p. 12).

The Maturity Model of Corporate Foresight (Rohrbeck, 2011) and The Foresight Outcomes Framework (Hines, 2016) are examples of frameworks created to help corporations evaluate their foresight capabilities and to guide the implementation of foresight. To maximize the impact of foresight exercises, Johnston (2012) proposes a Foresight Impact Evaluation Schema while Rollwagen et al. (2008) has created a criterion for improving impact of foresight studies. By following the criteria, decision-makers should be able to address broader alternative possibilities, thus making more informed and better decisions (Rollwagen et al., 2008). It is evident that impact assessment of futures and foresight is a topic widely explored. The promised benefits seem significant too. It remains to be seen whether these models are being utilized in companies and if so, how.

3 Research design

Despite growing amount of interest, there are gaps in understanding current practices in organizations' strategic foresight activities, as well as the impacts and assessment of those. This section offers an explanation on how the thesis attempts to increase knowledge within these gaps. This thesis has three main interests 1) to observe how impact is understood in the context of strategic foresight 2) to identify the barriers and enablers of impact assessment in the context of strategic foresight, and 3) determine whether and what kind of strategic foresight impact measurement structures and practices exist in global organizations. The thesis takes an exploratory approach to provide an understanding of the issue.

The primary interest is to increase the understanding and practices of strategic foresight impact assessment. In addition, the thesis offers novel insights into strategic foresight's role and structures in global organizations to add to the knowledge of the topic. The primary method for gathering novel data are semi-structured interviews. The research questions focus on understanding the factors that contribute to impact creation through strategic foresight and its measurement. In addition to the interviews, this thesis also draws on existing research and literature regarding strategic foresight assessment and evaluation. This provides a wider context for the findings from the interviews and ensures that the findings are grounded in existing research.

Given the complexity and multidimensional nature of the research topic, a quantitative research method was neither sufficient nor appropriate for this study. Choosing a qualitative research approach for the study is rooted in the recognition of the unique strengths and nuances offered by qualitative methods in exploring complex phenomena. This decision aligns with the pragmatic research paradigm, emphasizing practicality and the real-world application of research outcomes. With the aim of maintaining theoretical flexibility, no conceptual or theoretical models or hypotheses were set to be deductively proven or disproven in the real world.

According to Merriam (2002), qualitative research has its groundings in the idea that individuals construct meaning through their interactions with their surroundings. This approach allows nuanced exploration of the research questions and provides an opportunity to capture the complex experiences and perspectives of the study participants.

The richness of qualitative data allows for a holistic exploration that goes beyond mere quantification, providing a nuanced understanding of the studied subject (Denzin & Lincoln, 2000).

A research paradigm, on the other hand, is a set of guiding beliefs and principles that shape the approach to making sense of the complexities of the real world (Denzin & Lincoln, 2000). It influences the choice of research methods, data collection, and data analysis techniques (Denzin & Lincoln, 2000). This thesis adopts pragmatism as research paradigm. Pragmatic needs guide the goal of the research, while this thesis takes a stance where knowledge is actively constructed by individuals through their experiences and interactions with the world. Pragmatism is known for its focus on practical application and pragmatist epistemology underpins that knowledge is based on experiences (Kaushik & Walsh, 2019). Pragmatic approach encourages researcher to consider how their findings can be applied to improve existing practices. This thesis seeks to generate insights that can help guide the foresight work in the context of global firms. Pragmatism presumes that knowledge is grounded in human experience that acknowledges the importance of lived experiences in shaping our understanding of the world (Kaushik & Walsh, 2019). This aligns with the practical objectives of the study, where the aim is to find solutions to a challenge experienced in a real-world context. The next section delves into the research methods and data collection techniques that will be employed.

3.1 Research methodology and data collection

3.1.1 Literature review

The choice of articles for the literature review was mainly based on the journals where they were published. Many included articles were published in quality journals, such as *World Futures Review*, *Technological Forecasting and Social Change*, *Foresight and Futures*. Two themed issues with a linkage to the thesis have been published in futures journals: *Foresight and Evaluation* in *World Futures Review* (2019, vol. 73) and *Foresight Impacts from Around the World* in *Foresight* (2012, vol. 14). *Foresight's* (2012) special edition is devoted to identifying direct impacts, measuring them, and identifying factors influencing them (Calof & Smith, 2012). Special edition of *World Futures Review* (2019), on the other hand, is focused on the interplay between foresight and evaluation (Dator, 2019) and the application of evaluation practices and methods used by futurists

(Gardner & Bishop, 2019). In addition to these theme issues, an extensive number of articles related to study matter have been reviewed.

Volter, University of Turku library database, and Scopus served as the main databases for searching relevant articles. Research Rabbit, a citation-based literature mapping tool, was used for search of similar work and suggested authors. It is notable that even though the interest towards evaluation of strategic foresight and its impact has grown, only a few journal articles related to the study topic were from the previous three years. Yet, there is interest in the topic within the research community. This finding is supported by, for example, APF's (*Association of Professional Futurists*) evaluation task force that aims to build evaluation capacity within the field (APF, 2022).

3.1.2 Semi-structured expert interviews

Semi-structured expert interviews were chosen as the primary method for novel data gathering. Semi-structured interviews allow for focused discussion while also encouraging participant input (Galletta, 2013). Flexible yet focused on this context means that in-depth information was gathered directly from participants, allowing dynamic exploration of perspectives, experiences, and narratives of interview participants (Rubin & Rubin, 2004).

Initially, a survey was considered as an alternative method for data gathering but was ultimately rejected, as further clarifications and deeper reasoning would not be possible in a survey (Charmaz, 2006). The survey could possibly have reached a larger number of participants, but on the other hand, the depth of the findings would have remained superficial. The possibility for reasoning was seen crucial due to the complexity and ambiguity of the research topic. Thus, thesis bases its novel contributions exclusively on qualitative data. The researcher believes that in qualitative interviews, it is possible to gain more insight into how the impact of foresight is understood and into if and how it is measured in sample organizations. By conducting in-depth interviews, the researcher gains access to people's thoughts and feelings about the topic, which can help to understand the motivations behind their decisions and actions.

In addition to an extensive literature review, this thesis examines the findings of twelve interviews. The objective was to enhance both data accuracy and reliability by having this many interviews, thereby avoiding dependence on insights from only a few experts.

According to Galletta (2013), an ideal approach for determining the sample size is to collect data until new thematic patterns are no longer emerging from the interviews. For this thesis, it meant a sample of twelve interviewees. Semi-structured expert interviews were organized online between May and August 2023. One-hour timeslot was reserved for the interview with all the participants. Ten discussions lasted approximately the whole hour, and two were shortened to around 35 minutes per the interviewees' wishes. In addition to these interviews, three sparring sessions were organized with professionals and practitioners in the field.

An interview schema (appendix 1) was prepared in advance. An information package containing interview schema and data privacy declaration (appendix 2) was shared with all interviewees before the interview. It was neither required nor expected that interviewees would prepare for the interviews, but since some of the participants asked for the possibility, they were all offered the same opportunity. The question base was used flexibly during the interviews. Some questions were revised or skipped during the interviews based on relevance to the interviewee. The interviews were conducted and recorded with Microsoft Teams. Teams offered an initial transcription of the discussion, which was reviewed and edited by the writer before additional analysis. Due to the global setting of the study and interviewed professional. Nine interviews were held in English. The three remaining interviews were done in Finnish, the first language of the three interviewees. An author of this thesis has translated excerpts from the interviews held in Finnish into English. Incorrect translations and misinterpretations are the sole responsibility of the author. In continuation, the researcher is responsible for any misinterpretations made based on the original materials, regardless of the language used.

Interview participants

Hines & Bishop (2006) defines an organizational futurist as a full-time employee responsible for foresight activities within a single organization. This thesis aimed to gather insights from individuals that fit in this description. Interviewed foresight leaders and managers represented eight global or multinational organizations. Chosen experts represent a diverse group from Europe and the USA and they come from multiple industries. As a result of this differentiation, thesis gains understanding of the views and experiences of different fields and perhaps also their differences. All interviewed organizational futurists are in leader or managerial positions in their respective firms.

In addition to eight corporate leaders, two consultancy leaders and two academia representatives participated in the study. Both consultancy representatives had global customer portfolios while both academia representatives had substantial knowledge and research backgrounds in strategic foresight and evaluation.

A prerequisite for the study was the requirement that organizational foresight leaders working in an international context should be met. For the study, this meant that potential interviewees who did not meet the condition, for example, are only partly involved with foresight, were rejected. This choice was not made because they had nothing to give to the research but to maintain the scope of the study. This choice made it challenging to find interviewees, as there are a limited number of such experts. Most potential interviewees also have tight schedules. The author received help in reaching and contacting some of the contacts from the commissioner of the work, KONE. In addition, the author approached several leading experts in the foresight field via LinkedIn and by email. The author is grateful to the numerous people who took the time to respond to interview requests even when participation was not possible.

All research materials, including this thesis, have been anonymized from all published materials and no identifiable personal or organizational information will be shared in any format. Position titles have been revised and harmonized while maintaining levels of positions to assure no interviewee can be identified based on their title. The decision was made with an acknowledgment that futures-related work is often considered confidential in the corporate setting. In addition, it was expected that interviewees could practice a higher level of openness when their insights are not strictly related to their current roles and organizations. In turn, this was expected to increase the richness of the research findings. Each interviewee is referred to by a unique number assigned to them. Table 2 provides an outlook of the interviewees and the industries their organizations represent.

Table 2. Research Interview Participants

| Interviewee | Position* | Industry | Market reach |
|--------------------|-------------------|-----------------|---------------------|
| Interviewee 1 | Foresight Manager | Energy | Global |
| Interviewee 2 | Foresight Manager | Technology | Global |
| Interviewee 3 | Lead | Consultancy | Global |

| | | | |
|----------------|-------------------|--------------------|---------------|
| Interviewee 4 | Lead | Consultancy | Global |
| Interviewee 5 | Research Manager | FMCG | Global |
| Interviewee 6 | Professor | Academia | |
| Interviewee 7 | Foresight Lead | Automotive | Global |
| Interviewee 8 | Professor | Academia | |
| Interviewee 9 | Foresight Lead | Automotive | Global |
| Interviewee 10 | Foresight Manager | Energy | Global |
| Interviewee 11 | Foresight Lead | Telecommunications | Multinational |
| Interviewee 12 | Foresight Manager | Infrastructure | Global |

* Position titles might have been revised and harmonized maintaining levels of positions to assure no interviewee can be identified based on their position title.

Interview schema

Empirical study findings are based on research interviews. Since the research approach is rather data-driven than derived from existing theory, forming a relevant and well-grounded interview schema lays the foundations for the thesis. Literature review serves as a tool for identifying key issues and questions. Generally, the questions are designed to be open, but in such a way that the questions would not assume anything. This requires the questions to be formulated in such a way that some of the questions have a follow-up question. For example, the question regarding the systems for measurement is asked followingly: “Is there currently any systems for measuring the foresight work done in your organization? If yes, could you elaborate on those. If not, do you think there should be? Why? Why not?”. In this format, the question does not take existing systems for granted and is further formulated based on interviewees initial answer.

The interview schema was split into five sections. The first section provided background information about the interviewee’s experience in foresight and their current role. This section presented the context and highlighted the interviewee’s take on the topic. The second part was about setting the organizational context and understanding for further questions. In this part, for example, the role of foresight and how it should be situated in an organization was discussed. Previous research suggests that the level of formalization of strategic foresight activities within large organizations vary (Rohrbeck & Schwarz, 2013). Therefore, understanding the role of strategic foresight within sample

organizations was seen important. The question about the role of strategic foresight was set to be broad since researcher had no prior knowledge related to the level of formalization and processes within organizations where interviewed experts worked at. The third part concentrated on the value and impact of strategic foresight and how those are understood by research participants. In the fourth section, current practices for measuring and assessing the impact were addressed. Also, this section covered the themes related to the responsibility of setting metrics and choosing the appropriate measurement period. Lastly, interviewees were asked about their views on the future of strategic foresight impact assessment. They were also given an opportunity to express insights and advice freely.

3.2 Data analysis

This section discusses the chosen methodology for data analysis. The data collected from the interviews was analyzed using thematic analysis, a widely used method in qualitative research. Thematic analysis involves identifying patterns and themes within the data and categorizing the data according to these themes. This allows the identification of commonalities and differences in the experiences and perspectives of the participants and to develop a deeper understanding of the research topic. (Braun & Clarke, 2006).

Braun & Clarke (2022) defines two orientations to data. One is inductive, rooted in the data, driving coding and theme development. The other is deductive, guided by existing theories, shaping how data is read, coded, and themes are developed (Braun & Clarke, 2022). In this analysis, both inductive and deductive approaches are used. During this process, NVivo, a qualitative data analysis software, was used by the researcher. The researcher found NVivo as an effective tool for organizing and coding, the data gathered through expert interviews.

3.2.1 Thematic analysis

Thematic analysis was the technique of choice for this study. Thematic analysis (TA) is a qualitative research technique used to identify, analyze, and interpret patterns of meaning or themes in data without being restricted by any theoretical commitments. TA is known for its flexibility in terms of, for example, research question, sample size and data collection method. (Clarke & Braun, 2017). The choice of method for analysis aligns well with the goals of thesis. Additionally, TA provides guidance to researchers who are

new to qualitative research, such as the author of this dissertation. The six phases of thematic analysis Braun & Clarke's (2022) suggestion:

Phase 1. Familiarizing yourself with data

The goal of the first phase is that researcher develop a profound familiarity with the dataset. Practically, this involved listening to interview recordings, reading and re-reading transcriptions and making notes about all ideas and insights that arise. Braun and Clarke (2006) acknowledge the importance of considering how the data is represented when conducting thematic analysis.

Phase 2. Coding

In this phase, data segments that may be interesting, relevant, or meaningful to the research questions are systematically identified and labeled with codes. The coding process captures a range of levels from explicit (semantic) to implicit (latent) meanings.

Phase 3. Generating initial themes

In the third phase, patterned meanings across the dataset are being identified. Code clusters sharing a core idea or concept and answering research questions are compiled. During the process of theme development, the researcher constructs themes based on the data, research questions, and their own knowledge and insights. Themes convey shared meanings, while codes capture specific ones.

Phase 4. Developing and reviewing themes

The fourth theme contains a critical review of the candidate themes. During the review, it is essential to confirm that the themes are relevant to both the coded extracts and the entire dataset. The selected themes should highlight the most significant patterns in the dataset relative to the research questions. In this phase, candidate themes may be combined, split, or discarded. In the review phase, the central organizing concept of every theme should be identified.

Phase 5. Refining, defining and naming themes

The fifth phase involves refining the specifics of each theme and the overall story line. In addition to the analysis, themes are given appropriate names to represent the content they encompass.

Phase 6. Producing the report

When conducting TA, writing is a crucial component of the analytic process, and it is recommended to start early. The final phase offers the last opportunity for analysis and creating a compelling analytic narrative with data extracts to support the story.

By carefully following the phases of thematic analysis, the researcher strives to ensure the quality and reliability of the process and results of the study. However, there are limitations to the work that will be highlighted in the next section.

3.3 Limitations and integrity of the research

Due to the empirical nature of the study, it is appropriate to examine its boundaries, integrity, and credibility critically and consider the ethical aspects of the topic. The trustworthiness of this study is dependent on many choices and factors. Transparency and openness are crucial parts of credible research in areas where frameworks and previous studies do not exist. In this section, the ethical aspects related to topic in question and the boundaries of research are being discussed. In addition, the following aspects are brought to discussion and ethical consideration: the thesis grant, the role of the researcher, the chosen interviewees, the chosen research approach, and methodology for data analysis.

Several ethical issues should be brought to discussion related to this topic. This thesis acknowledges the challenges related to the use of impact as a concept in this study. The challenge is being tackled by asking the research participants how they understand and define the term in their context. At first, the research topic consisted of both impact and performance of strategic foresight. In the beginning of the research process, it became evident that both aspects could not be thoroughly explored in the scope of a thesis. There are two main reasons why the research continued exploring impact instead of performance. Firstly, the shortcomings and dysfunctions of performance measurement systems has been discussed for decades in academic research (Ridgway, 1956). Secondly, after an initial literature review, performance as a term was not recognized as a concept within previous research and literature in the context of strategic foresight assessment.

There is ambiguity and multiple meanings associated with concepts related to foresight impact and assessment, as has already been discussed in the literature review. All respondents may have different interpretations of foresight impact, despite the fact that respondents have worked with strategic foresight in global or multinational settings.

There may be a difference of understanding and experience on the practice between respondents and researchers as to why misinterpretations may have occurred.

Each research project has its limitations, and this thesis is no exception. The thesis aims to benchmark and understand how strategic foresight and its impact is currently measured and assessed in global organizations. The thesis itself does not attempt to measure anything nor does it compare, or rate approaches chosen in organizations between each other. Instead, it serves as a glimpse into where the strategic foresight field within global organizations lies concerning the question. The interviewed professionals were located in many different countries, however, limited to Europe and the US. The interviewees represented global companies with operations all around the world,

3.3.1 The thesis grant

As already noted, the researcher has received a grant for thesis research from KONE Oyj. The influence of the company exceeds to two areas: 1) the development of research area of common interest and 2) the help in selection and contacting potential interview participants. While the initial research area was proposed by KONE, the researcher had the possibility to influence the final topic. Researcher was also responsible for the research plan and the chosen methods for both data gathering and analysis. KONE is a member of various industry networks and helped the researcher in contacting potential interviewees for the study. All interview participants were also approached by the researcher after an initial introduction of the parties. Besides that, researcher approached potential interviewees by email and in LinkedIn individually. Novel research data, including video recordings and transcriptions gathered for the study are only accessed by the researcher before the anonymization of the materials. In the quest for transparency, the interviewees were informed about the grant both in the interview invitation and in the information package that was shared with all participants in prior. The organization granting the thesis has not directed the priorities nor the results of the work, which has offered the researcher the opportunity to act transparently and ethically towards all parties involved in the research.

3.3.2 The role of the researcher

It is important to acknowledge the potential risks and biases associated with the researcher that can impact the trustworthiness of the study. But rather than trying to eliminate these

Merriam (2002) calls for the identification and critical assessment of their impact on research and its findings. Clarke & Braun (2017) conform to this finding, stating that conducting reflexive thematic data analysis, it is crucial to acknowledge and reflect on the theoretical assumptions that underpin the analysis.

In this case, while researcher has experience of working in the private sector and in big corporations, they lack work experience in the field of strategic foresight. Additionally, researcher has limited experience in qualitative research methods, including semi-structured interviews and thematic analysis. Researcher also acknowledges that personal beliefs and biases stemming from one's world view and previous experiences may affect the research. Yet, the researcher has made efforts to mitigate every risk by critically and openly examining observations and implementing different strategies. Next, these limitations are discussed in more detail.

The researcher lacks firsthand work experience in the field of strategic foresight. This challenge was tackled by having multiple conversations with various experts in the field before constructing the means for the research. The researcher has taken courses in strategic foresight and futures studies as part of the master's degree. Also, an extensive literature review on strategic foresight activities in both public and private sectors gave a further understanding of the topic and helped in crafting an appropriate interview schema.

The researcher has limited experience in conducting data gathering with semi-structured interviews nor in data analysis using thematic analysis. Semi-structured interviews always involve a certain level of openness and freedom. The researcher tried to avoid directing the respondent's thinking in any direction. In the case of possible clarifying questions or, if necessary, examples, the researcher could say during the interview that they try to explain question in brief, so as not to steer the interviewee in any particular direction. Reflexive thematic analysis was chosen as a method for data analysis since it provides clear steps and guidance to researchers who are new to qualitative research, such as the authors of this dissertation. A careful examination of the book *Thematic Analysis* (Clarke & Braun, 2017) gave good prerequisites for using the method. By following the structured approach outlined in the preceding section, researcher ensures that the analysis is systematic, comprehensive, and rigorous.

Lastly, the researcher acknowledges that one's personal beliefs and biases can always influence the process. In evaluating qualitative research quality, one must consider

objectivity of the research. Due to the inherent need for interpretation in qualitative research, some bias is inevitable, as researcher cannot entirely separate their perspective from analysis. The term "bias" may not align well with the subjective nature of qualitative research, as argued by (Galdas, 2017), since researcher plays an integral role in the research process which implies an inherent value-bias in qualitative analysis. Researcher have written a reflexive journal during the research process that helps in addressing world views and ideologies making them more visible and, in that way, open for further examination during the process.

3.3.3 Interview participants

Rohrbeck & Schwarz (2013) study argues that large corporations are more likely to have the necessary resources to engage in strategic foresight activities, and they are also more likely to seek a return on their investment. During their pre-study phase, they could not find small and medium-sized enterprises (SMEs) with formalized strategic foresight activities or systematic assessment methods and focused only on large organizations (Rohrbeck & Schwarz, 2013). This finding supported the decision to have experts working in global enterprises as informants. The interview participants were chosen based on predetermined criteria introduced in previous section. The researcher had no personal or professional contact with any of the interviewees before start of the research process.

Ethical principles of human research (TENK, 2019) identifies several rights of interview study participants. These rights include, for example, the right to voluntary participation, withdrawal at any time without consequences, as well as the ability to revoke consent. Research participants are also entitled to clear information about the study, including its content and potential risks, presented in a language they understand. Participants should also be aware of their role and any conflicts of interest on the part of the researcher. (TENK, 2019, pp. 8–9).

Potential research interview participants were approached with an email invitation that further elaborated the goals of the research (appendix 2). In addition, all interviewees received research information package including the interview question base (appendix 1) and information on how research data and privacy (appendix 3) is handled during the process. The rights of the participants as well as the data privacy notice were shared both through screen sharing and through oral communication in Teams. Furthermore, participants were given the possibility to ask questions related to their rights and the

research process in general. Consent for Research data privacy notice was requested before the start of the interview.

It was not required to familiarize with the information package, but the aim was to offer each interviewee an equal opportunity to prepare for the interview in advance in case they wished to do so. Some had read the questions beforehand, and some had not, which may have affected the extent of the answers at the time of the interview.

All interviews were anonymized due to awareness of the business-critical nature of strategic foresight activities in organizations. Additionally, the work titles of the interviewees were harmonized so that the interviewees cannot be identified by their title. Since the group of profession is rather small, this was seen as necessary. The aim was to offer all interviewees as open a space as possible to discuss the issue and challenges related to it. This choice limits the transparency of this study. Yet, in terms of the subject, the personal and organizational data of the interviewees were not seen relevant to the significance of the findings of the study.

3.3.4 Research approach and data analysis

Choosing between qualitative, quantitative, and mixed-method approach is an integral part of the study process. The choice of qualitative research excerpt is justified already in the previous chapter and the researcher stands behind the choice. At this point, however, it can be said that all approach-related choices contribute to the results of the study and thus to its credibility. A qualitative approach poses some boundaries for the research, one being the fact that sample size is always limited.

Efforts have been made to ensure credibility with a sufficiently large research sample, a transparent research process and a methodology that enables systematic analysis of the results. Thematic analysis is a versatile and adaptable method for analyzing data. The data set can be interpreted in several ways, which makes different meanings possible. Thematic analysis can be limited by the absence of theoretical frameworks, compromising its interpretive power. (Braun & Clarke, 2006).

It must be noted that depending on who codes and interprets qualitative data, the interpretation may differ. It is therefore possible that the results could be different if someone analyzed the data else. However, a thematic analysis approach by Clarke & Braun (2022) was used increase the reliability of data.

The section delved into the research boundaries, integrity, and ethical considerations. Boundaries of the research were outlined, emphasizing study's qualitative approach and the limitation to European and U.S. interviewees. Due to a grant from KONE Oyj, the researcher clarifies the company's influence in research development and participant selection, confirming autonomy in defining the final topic and research methods. The researcher's potential biases are brought to discussion, with efforts made to mitigate their impact. Interview participant selection criteria and anonymization processes are detailed, balancing between research transparency with the sensitivity of strategic foresight activities in global organizations. The chosen qualitative approach, utilizing thematic analysis, is defended for its adaptability and systematic analysis capabilities, contributing to the study's credibility despite the acknowledged limitations. Next chapter presents the findings of the study in detail.

4 Findings and analysis

This thesis aims to add understanding on if and how the impact of strategic foresight is measured in global firms. It sheds light on the concept of impact as well as the enablers and challenges of assessing strategic foresight. It examines how, by whom, and where the impact of strategic foresight is created. Since this is a research area with great interest, but only a little evidence, the research process took an empirical approach.

First, this chapter lays foundations for the analysis of creating themes and the context for this empirical study part is gathered from the semi-structured interviews. Second, the concept of impact is discussed with an aim to provide further understanding on the first research question:

1) *What is impact in the scope of strategic foresight?*

Third, this chapter presents six themes that have been derived as a part of the thematic analysis. Themes are composed in a structured manner. First, a brief introduction to the core concepts of the theme in question is given. Themes are described and supported by interview extracts. Themes includes an attempt to provide answers to the research questions:

2) *What are the barriers and enablers of impactful strategic foresight in global firms?*

3) *How is strategic foresight impact measured in global firms?*

4.1 Overview of thematic analysis process

This thesis followed steps of thematic analysis by Braun & Clarke (2022), presented in chapter three. First, transcriptions were formatted consistently for further analysis. The findings were coded based on a thorough reading of all documents. The code labels were collated and compiled after systematical review and coding the entire dataset. A set of candidate themes was generated based on the preliminary findings from the data. Developing and reviewing themes proved to be a crucial step of the thematic analysis process. During the analysis process, initial themes were consolidated, split, and discarded. With five initial themes and four themes in between, the process ended up with six final themes with defined organizing concepts. This is due to the iterative origin of

the themes, where the content is analyzed numerous times, thus finding contexts and more precise demarcations between the findings. After the iterative phase, themes were refined, defined, and named. The aim was to construct a narrative that considers the interview findings in a versatile manner. In addition to this, it was wanted to make sure that all themes contribute to the research questions and thus contribute to the thesis as a whole. The theme names were intended to be inspiring and descriptive so that those would convey the essentials while arousing curiosity about the topic. This research findings chapter utilizes a significant amount of interview extracts. In this case, the choice to include extracts was made since these give the reader a lot of context and also opens up the multidimensionality of the study topic, which interviewees have to deal with.

This study employed a coding approach combining deductive and inductive methods to extract insights from interview data. The coding was deductive in the sense, that answers to research questions were searched through interview questions, guiding the formation of some of the theme groupings in advance. An inductive approach was incorporated to enable novel findings beyond the predefined research questions from the data itself. Since this research did not employ any existing framework or concept as such, the focus on inductive analysis allowed for the discovery of the insights. Over 450 extracts were coded and categorized during the thematic analysis coding process. The main categories conformed to the interview question base themes. The codes under them were not pre-determined during the process, but codes were created as needed if the interpretation of extracts did not meet the existing categories. Based on the number of codes in distinct categories, some preliminary suggestions of their significance in the research sample could be made based on their occurrence.

The image displays three screenshots of a coding software interface, likely NVivo, showing hierarchical code structures. Each screenshot has columns for 'Name', 'Files', and 'References'.

Top Screenshot:

| Name | Files | References |
|---|-------|------------|
| Setting the context | 12 | 124 |
| Measuring strategic foresight impact | 12 | 85 |
| Structures and practices for measuring strategic foresight impact | 12 | 69 |
| Enablers for strategic foresight impact and its assessment | | |
| Challenges and barriers in strategic foresight impact assessment | | |
| Impact definition | | |

Middle Screenshot:

| Name | Files | References |
|--|-------|------------|
| Challenges and barriers in strategic foresight impact assessment | 11 | 61 |
| Nature of knowledge related to futures | 8 | 19 |
| Information usability | 5 | 8 |
| Uncertainty | 4 | 7 |
| Top level management commitment | 3 | 6 |
| Market competition | 3 | 4 |
| Time horizon | 4 | 4 |
| Staff turnover | 2 | 3 |
| Foresight methods | 2 | 2 |
| Where decisions are made | 2 | 2 |
| No clear impact ownership | 1 | 1 |
| Lack of research and evidence | 1 | 1 |
| Governance | 1 | 1 |
| Lack of resources | 1 | 1 |
| Operating environment | 1 | 1 |

Bottom Screenshot:

| Name | Files | References |
|--|-------|------------|
| Setting the context | 12 | 1 |
| Role of foresight | 11 | 4 |
| Organizational location | 12 | 3 |
| Involvement of the role of strategic foresight | 6 | 1 |
| Why foresight | 7 | 1 |
| Future of the field | 4 | 8 |
| Foresight profession | 5 | 7 |
| Expectations | 1 | 1 |

4.2 Impact = Change

The broadness and situational nature of the term *impact* was already discussed in the earlier chapters of this thesis. Based on existing research, the thesis took a standpoint, where impact cannot be strictly defined without context and that it should not be assumed that there is a shared understanding of the term ‘impact’. Also, the interpretation of impact significantly influences how it is managed and evaluated. (Hearn & Buffardi, 2016a). Therefore, a question of what impact is in the context of strategic foresight and how it is understood by the research participants was set. Answers are compiled in table 3. In its broadness, the question offers a possibility to approach it from many directions. Interestingly, half of the interviewees named change or impact on decision-making as their definition for impact within the scope of strategic foresight. Two of the interviewees gave a definition of future-proofing business while one referred to being prepared for the futures. Both definitions can be argued to be closely related to the concept of change. One defined impact as long-term desired outcomes while the resting two said giving an unequivocal answer was impossible.

Table 3. Impact definition in the context of strategic foresight

| Interviewee | Definition | Interviewee | Definition |
|---------------|----------------------------|----------------|--------------------------------|
| Interviewee 1 | No clear definition | Interviewee 7 | Future-proofing business |
| Interviewee 2 | Change | Interviewee 8 | Long-term desired outcomes |
| Interviewee 3 | Impact on decision-making | Interviewee 9 | Being prepared for the futures |
| Interviewee 4 | Change | Interviewee 10 | Change |
| Interviewee 5 | No all-encompassing answer | Interviewee 11 | Change |
| Interviewee 6 | Change | Interviewee 12 | Future-proofing business |

4.2.1 Impact ≠ Action

When discussing measuring strategic foresight activities and impact, it is important to acknowledge the distinction between impact and action. The fact that goals set for the work are measured does not automatically mean that the work has had an impact. The same notion was made by interviewee four highlighting the difference between measuring whether something is happening and whether it actually impacts the organization.

One hypothetical example could be that a company composes and publishes a trend report. Have they made an impact if one thousand people upload it from the internet? Potentially, yes. But who are the people who have uploaded it? For whom are the ones the trend report is targeted? And even though the report would be downloaded, can we expect them to also read the report? Does target group have to read the report, or is it enough that they know that the organization is considering alternative futures and have a vision of their own? If the impact would be understood through the changes in decisions, is a decision indicating the change needed for the creation of the impact? How do we know if something has changed as a result, be it internally or in customers' attitudes based on that report? And even after that, is the impact as expected and intended? The list of questions could continue. This example is not all-encompassing, but rather serves as a description of the complexity and ambiguity of the study subject and the distinction between actions and impact.

This study has made significant efforts to understand how foresight practitioners and leaders understand and assess impact. But when it comes to measuring, the study wanted to understand all measures and assessment models currently applied by the organizations. This is due to several reasons. Firstly, one could counter-argue that all actions have an impact. The impact can be positive or negative, and its effects can be direct or indirect, intended, or unintended, and so on. Secondly, the indicators and measures set for strategic foresight work have not been researched widely and the amount of information related to the measures is extremely limited. Therefore, there was no desire to set hypotheses or definitions for research that would limit the growth of general understanding of the subject and the knowledge of current state of the issue. Next, themes created as a result of the process of thematic analysis are brought to discussion.

4.3 Theme I - Structures direct impact's course

The first theme explores two areas that lay foundations and context for further analysis: 1) strategic foresight serves multiple goals and purposes, and 2) there are multiple ways to organize strategic foresight activities in a global firm. While this is no news as such, the analysis reveals that it is not only the goals and purposes that strategic foresight serves that influences what impact can be achieved through the activities in a global firm. In a global context, the ways in which the activities are structured, such as how foresight is located in the organization, play a role in what impact can be expected from the work. On

the other hand, it is important to understand that a certain location in an organization does not equal shared goals, purposes, or measures between different organizations.

4.3.1 Strategic foresight serves multiple goals and purposes

As a part of setting context for the study, it was crucial to understand how the interviewees see the role of strategic foresight in their organization. The analysis highlights the distinct functions strategic foresight serves in sample organizations. Foresight functions tasks include, for example, risk mitigation, new business opportunity identification, strategy work support and overall helping organizations to plan ahead:

Future-proofing our company and creating resilience towards futures. It can mean, for example, identifying new business opportunities that is not tied to any current capabilities, supporting the growth of emerging business functions that have already been identified and established, mitigating risks, or work aimed at helping successful, mature, business areas maintain their positions and perhaps make smaller, more moderate changes of direction to maintain their own position. [Interviewee 1]

Interviewee seven emphasizes the vital role of strategic foresight in guiding business strategy and managing risks in a constantly evolving environment and stress the importance of agility and proactive thinking, highlighting the fluid nature of the future and the need for businesses to anticipate and adapt to various potential outcomes by thinking “on feet”. Interviewee two discusses the role of foresight, which is to bring additional value through practices and methodologies to the more traditional strategy work that would not have been considered otherwise. Interviewee eleven, on the other hand, reflected upon the differences between insight and foresight approaches. They make a distinction between the two, in which insights are heavily concentrated on the past or present. But by only focusing on the path, and not on what’s ahead, both opportunities and challenges might be missed:

My role is around insight and foresight, and when it comes to insight, it’s a lot about talking about our performance. How are we delivering? Where are we delivering? Where are we good? Where do we need to improve? But it’s always here or looking back. So that means if something else is around the corner, if we’re not also thinking about what will be the expectations of tomorrow, we might miss both big opportunities, but also challenges that might be ahead. [Interviewee 11]

The analysis reveals the multiplicity of objectives organizations have for the foresight work ranging from risk mitigation to exploring new business opportunities. Additionally,

the findings suggest that the scope of tasks varies not only from organization to organization, but also within. While the role of foresight in one organization is seen as serving clearer goals, such as feeding the initial stages of an innovation process, a unit in another organization is described as a strategic partner that cuts across the global organization. The role and focus of strategic foresight within an organization shifts according to the needs of business. Interviewee five discussed the changes in business strategy and how the focus evolves to meet the existing and future needs.

Consultancy leaders and professors were asked to describe an ideal state of strategic foresight practice. While the ideal state was pictured with a wider brush, centrality of the unit was explained as a “*nerve system directed at the future*” [Interviewee 6] and as an “*integrated discipline for decision makers*” [Interviewee 3]. But foresight teams do not build organizational nerve systems or integrated disciplines without active engagement of others. Therefore, it would be simplistic to argue that thinking about the future is only the job of a futurist. Several respondents pointed this out and stated that everyone in an organization is thinking about the future in one way or another. The role of foresight was seen as the one taking a higher-level view and systematic and strategic approach to futures to help other members of organization to engage with it. Taking a 10,000-foot view means looking at the happenings of the world through, for example, macro level analysis and translating those changes into the business context in question. The focus of teams and individuals are then directed towards key uncertainties ahead:

At a large company in some ways, I say everybody is a bit of a futurist. We're all trying to figure out what the future holds and what it needs. But our [foresight] group is very specific in looking at the future in a more strategic way. -- What we do is we take a 10,000-foot view. We take a very high-level view of what we see happening around the world in social, technological, economic, environmental, and political arenas, and then we start to think about what are all the things that are happening in those spaces and how might they come back and impact our business. -- We try to get teams to focus on what we would consider to be key uncertainties. [Interviewee 9]

4.3.2 World's turmoil as a catalyst for foresight in organizations

As discussed in chapter two, strategic foresight has been gaining more and more interest in the field of business during the last decades, and this has not gone unnoticed by the sample experts. This section takes a closer look to the evolvement of foresight's role as a business practice and unit through experiences of interviewee participants. Interviewee

six, with experience expanding over two decades, described that today, you can talk to most of the corporates about foresight with expecting them to have at least an idea what it is about. This was not the case when they started researching and practicing foresight. With first-hand experience on the evolvement of the awareness of strategic foresight in global organizations, Interviewee six considers the change to be “very notable”, even though the organization would not always know exactly what to do with it.

The number one factor contributing to the interest towards foresight seems to be the growing uncertainty and changes in the operating environment that have made implementing foresight easier for organizational futurist, as organizations and teams are trying to prepare for alternative futures:

The current situation in the world and all the uncertainties and major unexpected changes in the operating environment have highlighted the need to understand the operating environment more broadly and prepare for very exceptional circumstances. In recent years, it has certainly made it easier to implement foresight in this organization. [Interviewee 12]

The global pandemic is one of the recent happenings that prompted organizations to understand how quickly change can happen. New tools and approaches are needed to respond to change:

I'll be honest, COVID made our job way easier because things change so fast and those are exactly the types of events right that get people to kind of reset if you will and really think about the fact that things can change very quickly. [Interviewee 9]

Yet, systematic, and continuous approaches towards futures are more of an exception than the reality. One of the interviewees reported that their work has seen only one in five companies having systematic ways to continuously deal with futures. However, they envisioned an increase in the need for foresight skills:

In our benchmarking work, we see it's around one in five companies which have at least some systematic ways of doing foresight continuously. Going forwards, we will have less and less arguments saying we can live without foresight, or we can make our stakeholders our investors comfortable without actually having a foresight capability. [Interviewee 6]

Evolution can also be in the opposite direction. If the market situation requires reduced budgets and cost cuts, there is a tendency to de-prioritize things that are further ahead. Based on the experiences of some interviewees, foresight seems to still fall into the category of “nice” instead of “needed”, when there’s cost pressures on the horizon.

However, short-term savings can be costly if one does not have the means to scan the periphery:

There's a tendency to de-prioritize things that are further ahead. We might deliver good in one or two years doing no foresight work, but if we continue that way for a long time, we might miss [something important] and be challenged by others. There will come other technology and other providers and suddenly we're not relevant anymore. So it's a dangerous route in the long run, but it's easy to take that decision in the short. [Interviewee 11]

But having a budget and monetary resources are not enough when it comes to impact creation. With an extensive amount of experience also comes advancements in approaches. Interviewee six explains the shifting interest of foresight work within big corporates. While clear processes are essential in a global organization environment, processes and wonderful visions in place alone do not mean that the work would have the desired impact. Interviewee six describes the need to understand social dynamics within an organization to make strategic foresight work engaging for people:

We have learned a lot in the last two decades working with foresight in big companies. The early years we've been very much focused on having wonderful processes, wonderful efforts. How do we translate this? How do we make it visual? How do we create scenarios which can be put into videos which can be shared and so on. And in a way, this is for me, this kind of American paradigm of saying there's a think tank coming in, providing wonderful visions. The only problem is people don't engage with this, so it's also incorporated practice. --- Since at least 10 years, we've been more and more interested on how to create social dynamics behind perceiving and prospecting problems. [Interviewee 6]

One way of constructing social dynamics in an organization is through how the work is organized in practice. Next section discusses the role of organizational location in foresight impact creation.

4.3.3 Organizational location

Little research and information is available on how foresight activities are organized in global organizations. This may be because there is little information available on foresight practices in general. But when organizations start building internal foresight capabilities, one of the first questions is, how it should be organized.

This study contributes to building an understanding of the current state and perceived ideal organizational locations in global firms. Table 4 represents interviewees' views and

experiences on the topic. The sample organizations represent enterprises, and the organizing of operations in units differ. The sample of this study indicates that the most common and impactful place for foresight unit is as part of the strategy function. Yet, all interviewees acknowledged different alternative locations. Interviewee eight pondered on the question from a point of view of finding a balance between integration and autonomy stating that it seems foresight does better as an own department:

It's interesting whether its own department or whether it's few merged with the strategic planning part of an organization. It seems like it [strategic foresight] does better if it's its own little department with appropriately staffed and trained people. And then they are integrated with the other departments like planning and operations and leadership. It should enjoy a certain amount of lead and autonomy, but also be really integrated. [Interviewee 8]

Interviewee two reflected upon the motives, goals and users of the gathered knowledge as factors that influence the rightful location:

I think in a big global organization, there's not one place where it should be. But the function of what foresight is, what its motive is, why it is done and to whom it is done determines where in the organization it is. Who utilizes it and what its goal is, and in an organization of [company 2] size, foresight has many goals, serves many different purposes and many different roles. That way, it is located in very different places in the organization and its also done in parallel. [Interviewee 2]

Some interviewees had experience of successful foresight practices even without a resolute foresight team or experts:

I mean, some might argue that you need to have a person responsible for strategic foresight. For me, that's not necessary. For me it's necessary that it's an integrated part of thinking. [Interviewee 4]

Table 4 lists the organizational locations of strategic foresight activities among research participants. Considering the global enterprise organization focus, it is acknowledged that some level of structures and processes are needed. Yet, most of the interviewees recognize many possible organizational locations for strategic foresight activities.

Table 4. Organizational location of foresight activities

| Interviewee | Organizational location | Comment |
|----------------|-------------------------|--|
| Interviewee 1 | Innovation | Depending on goals, potential locations include Innovation, R&D, Strategy, Sustainability, Marketing |
| Interviewee 2 | Multiple locations | Located in multiple units parallelly because foresight work serves various goals |
| Interviewee 3 | Many possibilities | No 'one-size fits all' answer to the question |
| Interviewee 4 | Many possibilities | No one fits all answer to the question, experience from, for example, Market Intelligence, R&D, central unit under board |
| Interviewee 5 | Innovation & Technology | The ideal location wherever it gets resources and can execute |
| Interviewee 6 | Many possibilities | A unit is not a must to succeed. Resources are needed to implement |
| Interviewee 7 | Strategy | Wherever it's given agency and empowerment. Though, personally feels beneficial to be part of strategy unit |
| Interviewee 8 | Many possibilities | Central unit with combination of autonomy and integration to inform decision-making across organization |
| Interviewee 9 | Insight | Role as strategic partners for anyone across the entire enterprise |
| Interviewee 10 | Strategy | Previously in Innovation, happy to be a part of strategy team nowadays |
| Interviewee 11 | Brand & Communications | Brand is too detached from Strategy organization |
| Interviewee 12 | Strategy | Previously in Innovation |

Among interviewees working in-house, strategy function was the most common organizational location. Two interviewees [10, 12] had recently moved between two units; from the innovation unit to the strategy unit. Both interviewees described their previous role in the innovation unit as an incubator of innovation opportunities at the beginning of the innovation process. Similarly, both interviewees [10, 12] noted that the impact of their work can be broader as a part of the strategy unit. Interviewee twelve reflected upon the shift from innovation to strategy unit and the pros and cons between the two:

If [the question of ideal location] had been asked when we were part of the innovation unit, I would have answered that it is a good place to be. From there, there's good visibility into the R&D world and a good link to the upper management and strategy. And now in the strategy team I feel that this is a good place to be, because here again you see a company from a slightly different point of view and the impact is much wider than what it is as a part of innovation unit.

Yet, interviewee twelve continued discussing the importance of connections and understanding of day-to-day operations of the organization while being part of the strategy unit. Having the experience of being a part of innovation unit does not only help in understanding the practices, but also in having connections to other parts of the organization:

It has been an extremely important experience to have been in the innovation unit and now see that organization from a different perspective. As the location of the foresight team, the strategy team is a good place to be, but it is important to have a good connection and understanding of the operations of the different units of the organizations when operating separately from that day-to-day business and product development. [Interviewee 12]

Being impactful without close access to stakeholders and decision-makers was described extremely difficult. In a global organization, where you sit, figuratively or not, or which unit you are part of can have a significant impact on which people you have access to:

We're part of group strategy and I think that you need some kind of close access to the ones who should act on your recommendation. So that's either group strategy or the innovation teams or business development teams. And if you don't, I mean you could also sit in an R&D environment in a company and from that position I think it is extremely difficult to really be impactful at the company level. [Interviewee 10]

The roles, responsibilities, and goals of units in organizations between organizations can vary. It is therefore challenging to generalize about where work has the greatest potential for impact creation. Noteworthy and in line with the finding of the centrality of strategy unit, however, is also the case with other in-house interviewees. Interviewees 1, 5 and 11, located in innovation, technology, and brand functions, reported all on a feeling of detachedness from the organization's strategy function:

In our case, we are capable of generating inputs for sustainability and marketing teams from innovation function, but the strategy function is perhaps its own fortress. If you don't have a foot in between that door, then maybe it's a little harder to give insights. If you want to do strategic foresight at the group level, then it has to live within that [strategy] function as far as I can see. [Interviewee 1]

Ideally I would like to have a better connection with the strategy team and with their planning. -- I don't think it should be centralized in strategy, because I think it's too easily disconnected from realities of the production environment. [Interviewee 5]

I think it's very natural to be part of the brand because the people working with brand usually understand these things. But also, I think we're too far away from the strategy team, which is another part [of the organization].
[Interviewee 11]

Not only the ones that had become part of the strategy team or those who reported detachment, but the strategy-linkage was commented on by people part of the strategy unit as well. Interviewee seven said that while they see many possible locations for the unit, they benefit from being part of the strategy unit. Interviewee nine, located in insights organization, described their role as “*strategic partners for anyone across the entire enterprise*”. On the other hand, the interviewees 5 and 12 named drifting too far from the daily routines of product development as a potential risk if strategic foresight is part of the strategy unit.

Future-ready strategies, risk mitigation and innovation opportunities; strategic foresight serves multiple purposes in global organizations. As the analysis reveals, in one organization, the interest is in identifying new business opportunities and feeding innovation funnel with new ideas. In another organization, the work is more concentrated on scanning the environment to mitigate risks. In the third one, it can be a combination of both, or something different. Additionally, the analysis shows how focus of the foresight work within one organization shifts according to the needs of business. While activities vary, all of those may build organizational resilience towards change.

The analysis suggests that organizational location influences what impact can be expected and achieved through strategic foresight. Every interviewee acknowledged different alternative locations for the foresight unit ranging from innovation and R&D to sustainability and insights. Many noted on how there is no one-size-fits-all answer to the question of organizational location. The relation between strategy unit and the perceived impact, however, stands out in this sample. This connection seems logical, if it is approached from a viewpoint, where impact is created through change. When we discuss foresight, we usually discuss a temporal scope exceeding the usual quarterly or yearly business cycles. The analysis suggests that foresight can succeed even without a unit or people responsible for it. The question that remains is that if not through structures that help in directing the course, how does it become an integral part of thinking, especially in a global organization?

Regardless of the organizational location, foresight leaders and teams are faced with the challenge of trying to navigate with different and changing expectations of organizations. However, there is a certain point beyond which their influence does not reach.

4.4 Theme II - You can lead a horse to water, but you can't make it drink

The second theme goes as the saying *You can lead a horse to water, but you can't make it drink*, a known idiom used by interviewee nine during the discussion. This theme delves into expectations and qualities that are associated with organizational futurists and foresight units. Throughout the interviewees, participants reflected upon the qualities that contribute or help organizational futurists and units to succeed in their work. Although this reflection does not answer the research questions directly, these factors are of great importance to what kind of impact can be expected from the work at all. Therefore, bringing this insight into discussion was seen relevant as a theme of its own.

Organizational futurists highlight qualities such as experience, role as a facilitator, communication skills as well as a consultant mindset. When it comes to team composition, diversity of thinking and teams stands out in this sample. To be able to affect decision-making, interviewee one highlights the importance of understanding the dynamics through which people in the organization make decisions. Interviewee ten reflected upon their consultancy background and how it helps as an organizational foresight leader, emphasizing the customer-focus in activities:

For our company we're also kind of in-house consultants on a specific topic and that requires a skill to be customer focused and the customer is our board and our people. If we would just do what we do and we wouldn't look at our colleagues, we wouldn't move a needle. [Interviewee 10]

The age and maturity of the foresight practices and units in companies differ. Some organizations are establishing internal units for the first time while some see it increasing its popularity again after years of inactivity. In some organizations, there are longer traditions of internal foresight activity and expertise. The age of foresight units within this research sample was between approximately one year and twenty years. However long it has been around, its existence does not mean that the role is understood across the organization. The job description includes clarifying the practices to other members of the organization. Creating a common understanding requires patience and communication skills from foresight professionals:

I'm a foresight leader in our company, which is a title that a lot of people don't understand. Although the role has been here for almost 20 years, they don't know what we do and that's OK. I feel like that is part of our job to help educate them. [Interviewee 9]

Foresight as a field has been criticized for its detachment from the everyday operations of an organization. Interviewee one discussed the challenge of finding a common language within an organization. Behind the common understanding in organizations are often also the thought patterns, world views, the methods we use as well as questions on how we value different actors and decisions in the organization. Interviewee one suggests that there can be built-in valuation systems within an organization that further affects who is able to take messages further. Generally, foresight specialists might not enjoy similar career and educational paths with the decision-makers they are trying to convince:

The built-in valuation level perhaps more favors strategy functions [over foresight functions]. -- In many cases, the people who work in the strategy function have similar thought patterns, tools, and ways of working, with those who have progressed to the top management of the organization. That educational background and path even in life more broadly, but also within the company is similar in a sense that they already speak the same language. [Interviewee 1]

Communication in general was one of the most significant ways to enhance the impact of foresight. Due to the nature of the knowledge related to foresight, experts must be extra careful in crafting their message. Bringing data to the table is not enough. Many saw the role of foresight as the one translating the data and information gathered to insights that are relevant for the business or decision in question. Understanding the amount of information that a leader in a global organization must absorb to make decisions is vast even without the knowledge of alternative futures. Some interviewees highlighted the ability to compress the information in such a brief form that it can be easily understood. At the same time, interviewee two acknowledged that there must be a certain level of trust in the people informing the decision-makers, as they must make choices on what they think is relevant and essential for making decisions regarding futures:

That's probably the most challenging part, how well I can communicate and how credibly I can cause situations where our business management decides to implement those ideas. What I've been able to produce for them and what kind of decisions are made based on them is probably the impact for us. That regardless of the outcome, whether we look 3, 5 or 15 years ahead, my actions have caused organizational change. [Interviewee 2]

In addition to education, communication and facilitation, there is a need for capabilities to utilize existing data and knowledge for the purposes of foresight. Interviews also showed that more and more data and market insight knowledge has been requested from organizational futurists as well while trying to make sense of what is bubbling under. The value of trend reports was recognized by many interviewees as a way to engage customer's and build thought leadership outside the organization. But when it comes to prospecting for own business, if you are looking at trends, you are too late. Interviewee seven explained the reasoning behind turning their back on trends and why foresight teams need to look beyond:

We look at little clues. We look at geopolitical movements, economic forecasts, we compare between economic forecasts, some are right and some are wrong, and invariably there's a compromise in the middle. We look at technology developments, new patents. We look at social attitudes and generational insight rather than "oh there's a trend of people 3D printing their own trainers". You know, that was a prediction that some trend forecasters made years ago. It never happened. We look at a lot of data and I think in data lies power for foresight teams. [Interviewee 7]

But how to determine in which direction to look and where to search for data? The diversity of the foresight team was considered as a significant enabler for diverse discoveries and impactful foresight practices. This makes it possible to understand the biases of thinking and to find solutions outside of one's own beliefs and ideas. Several interviewees said that their comparatively small teams consist of experts representing different fields of expertise, age groups and nationalities. The focus is on the diversity of thinking and ways in which reality is understood. This should not only be a tick-a-box procedure:

We are not a big team. We're like four people or so working exclusively on foresight, and I think one of the enablers is to have a relatively diverse team. For example, one has a social science background and I'm an engineer and our third colleague was working in trading. So, we really have different backgrounds and of course we involve a lot of more people internally. And this is reducing your own bias by being in contact with lots of people and that is an important enabler. [Interviewee 10]

I think first and foremost, that's super crucial is to make sure that you pull into your project a very diverse set of thinkers with different relevant experience and expertise. This should not be a tick the box. That okay, I need to have a man. I need to have a woman. I need to have older, younger. No, that I'm not interested in. Every single one of those persons can be an 80-year-old woman. From my point of view, as long as I would have for whatever task, it is the relevant kind of expertise from neurology to

economics to engineering to whatever it might be, just that they are all going to be thinking in a different way and they have a different kind of understanding of what the reality is. I think the diversity aspect of your talent pool is massively important. If you have a very homogeneous talent pool or the colleagues, I think it's going to be very difficult to do strategic foresight in a successful way. [Interviewee 5]

Diversity of thought. I have a very diverse team. Six people in the team, multiple different languages, multiple backgrounds. I have a project manager and event manager, an engineer, a researcher. And I think that helps because we see things from different perspectives, and we ask lots of what if type questions. That's my favorite phrase. What if we did it differently? What if that happened? I think we try quite hard to use that diversity to make sure everybody has a voice and so that's an enabler. [Interviewee 7]

To go back to the core message of this theme, you can lead a horse to water, but you cannot make it drink, the message is clear in this context. Despite the abilities of internal futurists, their communication capabilities and the diversity of thought and teams, the foresight work's greater impact is always dependent on others. Interviewee two reflected upon the "limit" after which it is out of the hands of foresight experts, whether the information is utilized, and to not to do so is also a decision:

If we have done our job well and it has been communicated in such a way that it can be utilized, then if that information is not utilized, there is a certain limit, after which we can no longer influence it. If the decision-maker decides not to act on that information, then that, in a way, is also a decision. [Interviewee 2]

The second theme delves more closely into the qualities that foresight experts associate with the organizational futurists' role. And it is a lot. At its best, organizational futurists engage in influencing the most significant decisions for the future of the organization. On the other hand, the contribution is always part of a larger whole and it can take years before the results of the work are visible anywhere. Some interviewees highlighted their role in stress-testing and challenging the ideas and thought patterns of others as an integral aspect of their job. This places foresight experts in a position where individuals' inherent thinking biases consistently come into play. The importance of fostering diversity within teams was emphasized as a key strategy to effectively address and navigate these challenges.

Despite the abilities of an internal futurist, the impact of their work is always dependent on others. The dependency of others takes us to the third theme, which discusses the importance of engagement and participation in more detail.

4.5 Theme III – Impact creation is a collaborative effort

This theme builds up on core idea discussed throughout every interview – that creating impact with strategic foresight is a collaborative effort. The third theme discusses the nature of the knowledge related to futures and what challenges it poses to impact assessment. What became clear during the analysis is that impact of strategic foresight is created through collaboration. Many interviewees pointed out that everyone in the organization is doing foresight either consciously or unconsciously and in many organizations, the foresight unit's work extends to various parts of it. According to interviewee nine, the role of foresight is to foster a variety of stakeholders, function as a strategic partner for different units and parts of organization and create systematic approaches towards futures. The needs vary from ideation and inspiration to stress testing of business plans, but the involvement of partners is key to both:

We recognize that because of our unique, 10,000-foot perspective, we can be utilized in different parts of the business. We try to foster a wide breadth of partners. What we're asking you to do is think about how you would have to pivot or change your plan to be successful. So, we think of it as ideation and inspiration on one end of the spectrum and then stress testing plans on another end of our spectrum. [Interviewee 9]

In some organizations, foresight unit has taken an active and facilitative role in gathering various parts of the organization to work together as the foresight unit coordinates some parts of the discussion taking place between the strategy units, thus forming an internal network. Structured and systematic ways for pushing signals and futures related information to distinct parts of the business can make a significant difference and foresight function can have a central role in dissemination of the information. Interviewee seven described a network that the foresight team runs:

It's a cross functional network of strategists. So, there's usually a strategy lead in every team in the business, or at least every department in the business. And we meet with them after every sprint, once a quarter, to disseminate the signals and the data that we look at. And then we work with that group to essentially say, do we need a work stream to deal with this? And through that network, we encourage people to use the data to think about scenarios, to think about multiple futures and to have proactive

strategies to deal with them. That's the main way that that we disseminate the information in addition to managing the data and reacting to it within the strategy team. [Interviewee 7]

But this too requires collaborative effort and cross-functional discussion since foresight experts are not subject matter experts on the respective fields of operations. Different units of an organization might have their eyes on some parts of the challenge, but the teams are not necessarily working together with other functions or business lines to streamline their efforts. The importance of collaboration between the teams and units is crucial in tackling the challenges related to futures. Creating a shared platform for discussion related to future signals and information dissemination and further, enabling the creation of cross functional squads targeted to identified issues in the horizon has the potential to speed up the reaction time of business as a whole. While foresight plays a crucial role in this example, the greater impact is a collaborative effort, where subject matter expertise and people with the possibility to make decisions are needed.

Communicating what foresight is and what can be accomplished with the help of it are constant challenges for foresight experts. Collaboration is necessary for strategic foresight work to have an impact, which involves the dedication and cooperation of multiple parties. The common thread behind all these examples is collaboration. Whether it is changing the mindset, pivoting to the plan, or mitigating risks, all of these require a group of organizational members to have an impact.

What makes work so difficult and complex to evaluate and measure is not only the nature of the knowledge related to futures or the networked nature of the work, but also the fact that success has many fathers. Interviewee six discussed the phenomenon through an example where a new innovation finds its way into the market. When an innovation sees the light of day, you don't look back at who noticed an emerging trend x years ago, which might have been the initiating force for the success today. And on the other hand, the point is not to say that others could not have done the same without foresight, but rather that something that was identified by foresight unit is now part of the portfolio and that the active environmental scanning work done over the years pays off. Other interviewees also reflected upon proving the cause and effect and the fact that it is never only because of foresight that long-term decisions are made:

The truth is, we would never suggest that it was only because of us [foresight team] that we made a decision like this. It is one input of many that should be considered. But it is definitely a collaborative effort. [Interviewee 9]

In the advocacy and policy change space it is very difficult to prove cause and effect. And foresight, that is similarly true because again, your long-time horizon kind of precludes cause and effect. [Interviewee 8]

One of the key tasks of strategic foresight is to make organizations more future-ready. Decisions about the future are often strategic and relate to, for example, where to invest, what kind of services to develop and what kind of innovations to promote. Therefore, stakeholder commitment, commitment of those responsible for making the decisions is crucial.

4.5.1 Stakeholders make it or break it

Strategic foresight is no exception when it comes to the importance of management support in corporate environment. Management support is shown to be pivotal in strategic foresight. Leaders must actively champion and allocate resources to foresight activities. They should foster a culture of innovation, encourage open dialogue, and embrace long-term thinking. Without strong management backing, strategic foresight efforts struggle to thrive and adapt in an ever-changing business landscape. Having champions and sponsors within the organization is crucial to strategic foresight success:

The number one enabler is the executive management, the senior management, understanding it [foresight work]. [Interviewee 11]

Foresight requires champions and those who are willing to support it in the organization. But what it means on different organizations depends on the people who experience it as their own. [Interviewee 1]

To embed foresight and future thinking in the organization deeply you need to have promoters in the company. You want to have it and it needs to be both bottom up and from top down. -- If you don't have a sponsor somewhere high up in the organization and somewhere down the chain it's not going to be sustainable. [Interviewee 4]

Yet, interviewee five points out that support alone is not enough. To have impact, stakeholders need to engage with foresight work for it to have an impact. The resistance towards new ideas is higher if the stakeholders don't feel heard and have not participated in the work:

If and when your stakeholders are of the opinion that you know, they don't need to take part, they don't need to contribute, that they will just get the report at the end of the process, your project is likely going to have zero impact for the simple reason that the first thing when people see something they don't agree with, and if they have not been consulted, they're like oh yeah, I should have said that they should have done this in a different way or nobody asked me. [Interviewee 5]

On the other hand, foresight competes for the attention of stakeholders with issues that often seem more pressing in the present moment. Interviewees reported on experiences of low or no engagement of stakeholders, stating that engaging members of organizations is sometimes a challenge. Stakeholders may seek a shortcut to avoid putting in the required time and effort trying to only get a quick and simple answer. Interviewee nine further elaborated on experiences related to the intentions of teams stating that often times there's no real desire to second-question business plans or consider alternatives:

What we see happen internally is a lot of times teams come to us and they don't really have any intention or desire to change or consider different plans and they just want to create an opportunity to check a box that oh yes we talked to that team we're good. But the truth is they're just talking themselves into of course, our plan is perfect. Nothing could go wrong. [Interviewee 9]

On the other hand, interviewees who felt supported by their management and stakeholders stated that it made their job easier and impact of the work more solid:

The board being open to challenge and thinking about the future in different ways is the biggest enabler. I'm very lucky that I have several senior leaders who really believe in what we do. If they didn't, I don't think I would have the agency that I do and I don't think we would have the impact that we've had. [Interviewee 7]

The management's support and interest in this approach, both within our own unit and in senior management, certainly makes our work easier. [Interviewee 12]

Topics related to futures are often difficult and even uncomfortable. Organizational openness to new ideas and challenging old beliefs is key in creating safe spaces for exploring new opportunities:

It really helps to have an organization that is open to innovation that is open to pushing their thinking. If it's really rigid and structured and kind of pushing people outside their comfort zone. If that doesn't always work, if it's a really, yeah, I guess I would say like rigid space. -- Exactly how open to sometimes an uncomfortable conversation are they? [Interviewee 9]

The interviewees agreed that to create change and be impactful, cooperation and commitment to work are needed. In general, decision-makers often have numerous issues that require attention, time, and resources. And those more or less urgent issues often have to do with business today. To get people to commit to work that is looking further ahead, foresight specialists must be able to communicate its benefits to stakeholders. One way of communicating the benefits is through creating a compelling narrative to make it fit with the audience. Matching the story to the level that speaks to the audience in question is one way to make it happen. Interviewee 8 describes their experiences on conducting research in an area that heavily emphasizes quantitative methods. Despite the quantitative focus, findings to leadership are presented using case studies that delve into practical activities within the field. This approach resonates with leadership as it provides insights into the effectiveness of these activities and the lessons learned, presented in a narrative format.

The third theme suggests that foresight unit has an integral role in creating systematic approaches and structures toward futures. But without engaging members of organizations, your work does not move a needle, as one of the interviewees expressed. Stakeholder and management commitment are the number one enabler for impactful foresight. It has become evident that the operational landscapes of strategic foresight units in this sample vary. However, a common thread among all interviewees is the recognition that achieving impact requires active collaboration and networking within the organization. Interviewees pointed out that they alone are not responsible for impacts created. This underscores the idea that success is a collective effort, involving diverse contributors within the organization.

4.6 Theme IV - Measuring tomorrow is a battle against headwind

Business professionals are wired to make decisions based on data, numbers, and facts. But how to produce numbers and measures for work that deals with questions and themes that are still far from our reach and cannot be predicted? The fourth theme builds up on the understanding that measuring the impact of strategic foresight is not a straight-forward activity. The prior themes have helped us understand that creating impact is a collaborative effort colored by various interlinkages and causal relationships. How to make simplifications of something that is not simple? How to address the long-term time horizon while being relevant for business today? This theme discusses the headwind that

strategic foresight faces in attempting to measure its impact. In relation to this, the fourth theme discusses insights on responsibility of choosing the goals and measures.

Many interviewees recognized the nature of the knowledge related to futures as one of the most significant risks in trying to measure the impact. Knowledge related to futures is always subjective and hypothetical. This makes the interpretation part so challenging. Finding a consensus between different worldviews and assumptions, a mutual understanding of the constraints is needed:

The nature of knowledge is always hypothetical and subjective when talking about the future. It is often difficult to make decisions based on it. There can be conflicts in the interpretation of information about the future and it can be difficult to seek that consensus. [Interviewee 1]

Interviewee eleven considered simplifying something that is not simple the biggest risk for metrics setting. Another theme that highlighted in the discussions is the short-sightedness that can lead to the cessation of foresight activities, since the impacts might be visible only in the longer term:

I think the biggest risk is that the metrics are too short-sighted and set up so that they do not reflect foresight work having, in most cases the longer-term effect. And if you then have metrics that are only looking at, let's say the next year or so, chances are that they're simply not measuring the right thing, and no matter how you set them up, you will not achieve them. Therefore, the activities will be killed as it's perceived that there is no impact. [Interviewee 4]

On the other hand, some interviewees underscored the importance of the existence of metrics. Interviewee five would like to see more effort from entire industry in this context:

So, the biggest risk with evaluations and metrics, I think, is not to have one. Because if you don't have one like from my point of view it's a bit of a joke. OK, maybe a bit harsh, but still. [Interviewee 5]

The organization in question operates in the fast-moving consumer goods (FMCG) industry. Can a view of a more rapidly changing and measurable market drive this statement compared to, for example, the energy industry, where investment decisions often take decades to come? No matter the industry it is not only the products and services that change over time. Few interviewees named staff turnover as a challenge in assessing the longer-term impacts. Today, the durations of employment relationships are shorter, and oftentimes also per employees wishes, as they seek for new challenges outside their current positions or organizations. If people who put the changes in motion are not the

ones who see them being realized, who should be responsible for the potential impacts? Interviewee five described that staying in the same role for seeing the realization would be a surprise:

It is just the fact that since we are now talking about long-term planning and long-term projects and the people doing that will be changing every couple of years. So, there will be very few of us. None of us who will actually be seeing through what we have now put in motion and then having and proving that impact over the coming like four or five years, right? If I were still doing the same thing, I would be very surprised. [Interviewee 5]

The form of ownership of the company and its influence was also discussed in this context. Family businesses can have a greater interest in ensuring the continuity of operations and thus also become active in practicing foresight while in corporate context a part of the mental capacity of an employee might go to thinking about the next career steps. Therefore, you should be able to make sure to have some results on a shorter term as well:

What we see is that family-owned companies, they are way better prepared mentally to say that's [foresight capability] something I need to build it anyways and I better start today rather than tomorrow. While for corporate organizations you're dealing with this big group of stakeholders, which say I'm probably in this function for two years, maybe three. Then by the time I implemented the first things I already need to think about what's my next job is going to be. And that could be in the business unit, or elsewhere. So, with corporate organizations and foresight, it's always a battle. You need to make sure that you have some quick wins. [Interviewee 6]

Interestingly, one interviewee compared the assessment of foresight activities to strategy work. While strategy functions as a guide to resource sharing and the future of an organization, we do not have the ability to mirror the choices made to others in the future. The challenge is related to the interconnectedness of different actions. As discussed earlier in the analysis, foresight activities rarely happen in a vacuum where other areas and units of the organization do not touch the topic. According to interviewee, this makes the assessment of the role of strategic foresight difficult and risky:

I haven't come across any organizations that try to measure the impact of strategic foresight. And you could ask the same question if anyone has measured the impact of doing a strategy? You don't have anything to compare with. If you do it, you lean into it and do it within the area that are the object, and then you don't have a sample to measure against. Of course, you can see what has happened with the profitability after we started engaging with foresight, but you do so many other things at the same time.

So how would you know whether it's strategic foresight or not. So that's why I think it's an area that is extremely difficult. [Interviewee 3]

Some of the interviewees highlighted problems related to measuring that are not necessarily unique to foresight but also other areas of business. One challenge is related to the shortcomings of KPIs, where the KPIs becomes the target of optimization, not the activity itself. Interviewee two referred to the phenomena as an organizational game where everyone plays the metrics set, and no one plays the actual game. Yet another more general challenge relates to the audiences of certain metrics. If the metrics encourage the production of information only for a certain group or level of the organization, much of the benefits of the activity itself may remain unclaimed:

Metrics can steer foresight in a direction that does not exploit its full potential. Of course, resources must be considered, but if foresight data were produced, for example, solely to support decision-making by top management. And the metrics would guide all the foresight knowledge to a certain level and audience, it would not benefit the entire organization broadly. [Interviewee 12]

Common understanding about what strategic foresight work is and what can be achieved must be understood by all the parties involved in the process. There are risks in lack of mutual understanding and some interviewees had their own experiences of this:

I have seen it realized that there has been a lack of understanding of what foresight work fundamentally is. What are the aims and what is possible? Then KPIs are set that just don't fit the reality of doing it. And it's really bad for everyone involved. There will be disappointments in the people setting the KPIs and in those who do the work. [Interviewee 1]

Interviewee six reflected upon the patience that is sometimes needed in waiting for business units to feel the urgency to pull information from the foresight unit. A challenge here is that when business is doing good, the need and bandwidth for practicing foresight might not exist. And on the other end, if you start doing foresight only when things are directed in the opposite direction, you are utterly too late. But it takes a lot of patience and consistency to have systematic approaches and stable practices while waiting for the businesses to get interested in what foresight unit has been able to detect. They emphasize the need for the foresight unit to recognize the value of their work and balance initiative-taking efforts to push initiatives while patiently waiting for business units to realize the urgency of seeking foresight guidance on their own.

At the same time, the interviewees were unanimous that the goals set for foresight work and the vision of the organization should be set high up in the organization. The common worries were related to the above-mentioned mutual understanding of what can be achieved as well as the available headspace of managers and leaders to create achievable goals and vision states. Additionally, interviewees mostly agreed that all parties should be able to approve to the objectives:

Choosing the metrics, I would always say the management. The approval needs to come up top down. But I think it's good when the proposal for it comes bottom up. What matters is that both sides are happy with it or can accept it or find it reasonable thing. [Interviewee 10]

The decision-maker must produce a vision of what they want to be achieved. But if the organization and its employees themselves have a clear vision of what is expected of them, then they will probably be able to create the metrics themselves to guide its actions. [Interviewee 2]

There needs to be support from someone high up in the organization, else it's not going to work in any case. Therefore, they also need to define what they want to get out of it. And I think they often do not have the, let's say, headspace to properly think about it. So, I think it should be someone in the management and at the same time, I think this is a tough one because they often need to delegate it somewhere from the top. [Interviewee 4]

It makes sense that the team defines the metrics and that they need to be validated by the key stakeholders who will take this work forward and who, at the end of the day, will be accountable for the work that you have done towards even more senior leadership. They should have a very intimate understanding of why they set and chose these ones instead of other ones. [Interviewee 5]

Do these findings uncover a significant challenge in assessing foresight? While interviewees agree that goals and vision should be defined or at least approved by management, it is recognized that management may lack the knowledge or understanding of fundamental foresight principles. At the same time, management is expected to envision the future and the direction, yet organizational futurists are expected to play a supportive role in assisting management in looking at alternative futures ahead. The researcher suggests that some contradictions exist in these expectations and thoughts that should be understood and considered when choosing metrics.

The fourth theme discusses the risks and responsibility of measuring strategic foresight impact. Considering all the risks, the interviewees largely agreed that the work should be evaluated according to the organization's regular business cycle and that management

should be responsible for setting goals, while common understanding and approval is crucial. Theme addresses the complexities faced by business professionals who, conventionally grounded in data-driven decision-making, encounter difficulties when attempting to apply measurable metrics to a domain characterized by abstraction and uncertainty. The next theme discusses how these challenges are practically overseen today.

4.7 Theme V - Expert's views outweigh figures

Previous themes have discussed and illuminated the challenging landscape where organizational futurists act. This theme discusses how strategic foresight activities are currently measured and assessed in sample organizations. The assessment methods in this section are classified by their nature to quantitative and qualitative ones. The difference is not always clear between these two and the methods of assessment influence how the division should be made. In this case, the choices are made by interpreting the answers of the interviewees. Different approaches to the same assessing tactics are also discussed. Additionally, the decisions not to measure are analyzed. Although the tools for measuring would be similar in various occasions, the focus and content may differ, which has further impact on the results.

4.7.1 Quantitative measures

Quantitative measures are a type of measurement that provides numerical data to describe or quantify various aspects of objects, phenomena, or processes. The popularity of quantitative measures in business is due to several reasons, including the advantages in terms of decision-making, analysis, resource allocation, and performance evaluation. This section delves deeper into quantitative measures sample organizations have in place for measuring the foresight work and its impact.

Key performance indicators (KPIs)

KPIs, key performance indicators, generally help organizations keep track of and adjust progress to achieve business objectives by following the progression of certain indicators. A couple of interviewees introduced KPI's that are currently in use to evaluate strategic foresight work. For example, a foresight unit that is part of innovation unit tracks the amount of identified new business opportunities with a 5-step model. This makes it

possible to not only track the amount but also the steps the ideas are taken further. At the same time, it recognizes the work done even though all ideas would not see the daylight, since there's also value in not forcing bad ideas further:

We have KPIs for identifying new business opportunities. -- It's a 5-step model and we always get one KPI point from when we identify an idea and then according to how many steps it moves forward. Each step has a so-called cut-off phase, if it is not possible to build the business case further. This ensures, first of all, that we evaluate a sufficient number of business ideas and then also take them forward as there is background argumentation for them. If we find really good business cases, that's a good thing. But then again, it's also a good outcome for us if we identify new things and decide OK that this isn't our thing. We also get points for not wanting, in a way, to force bad ideas forward. [Interviewee 1]

Interviewee ten named stakeholder happiness as their KPI for strategic foresight work and described reaching happiness as a journey. They had made the shift from project based KPIs to the happiness measure following the dissatisfaction of previous indicator's ability to demonstrate the impact of foresight work. This journey and the steps required to achieve satisfaction are described in detail by the interviewee, as the journey includes feelings ranging from anger to waste of time, since foresight is often looking out for unusual things. Also, they discussed the potential challenges related to the happiness-measure. The happiness KPI requires critical self-reflection and a firm understanding of potential biases from the foresight unit as it includes the risk of only telling the stakeholders things that most probably make them happy. Also, an organizational culture, where opinions are welcomed to be questioned and challenged is a must to apply this kind of KPI. Ultimately, the goal is to expand stakeholders' views on potential futures, and that often requires a journey during which the opinions can change:

-- This is where the happiness factor could get trapped to just present to the board easy-listening music, and then they would all be happier. But on the other hand, if they would only hear what they know anyways, after two or three rounds they would skip the meetings with us because they would recognize that they don't change opinion during a meeting. And if you recognize you have meetings that do not change your view, the meetings are basically useless. [Interviewee 10]

Interviewee twelve described that quantitative measures should demonstrate that the recognized opportunities are qualitatively such that it is worth investing resources. This can have to do with, for example, the number of conducted projects or the size of potential market opportunities:

We have clear quantitative targets for how many deep dive projects will be done, for example. – Or that it can be shown that there is an opportunity for a certain kind of new market opportunity. Let us put it that way; we can quantitatively demonstrate that the opportunities are qualitatively such that it is really worth investing limited research and innovation resources in them. [Interviewee 12]

Dissemination goals

One of the goals of foresight can be to build brand awareness and thought leadership in the industry. When it comes to global enterprises, their actions, choices, and future visions can shape the shared future into what is preferred for the organization. From a branding point of view, demonstrating knowledge related to futures creates credibility, when the information about alternative futures is disseminated to stakeholders, customers, and other market players. A few of the organizations have experience on goals related to the distribution of future-related information in the form of trend and insight reports. Trend reports were also reported to support partner negotiations and sales:

We've had dissemination goals for larger studies, aiming to reach both internal and external audiences for the work. It's more of this kind of more traditional communication related KPI metrics that have been used there, and maybe that's where the function has been more about creating that kind of thought leadership and sharing these kinds of personal insights. [Interviewee 1]

Sharing trend reports is seen as a brand building activity. When it comes to trends, interviewee eleven states there is no secrets around them. The more important phase is to be able to define what the identified trends mean for the business in question:

We have been sharing several of our trend reports in the past as a brand building. We did a trend report a few years ago and we used that as something our salespeople can use to get to talk to new customers. There's no secrets around trends. You can just Google it and you will find the 2010 reports things saying what's coming up next. It's rather about translating that to our business and what we do about it. Showing that we know what's going on is good for us from a branding point of view. [Interviewee 11]

Financial figures

Some interviewees further reported on measures related to financial figures and displaying the return of investments. Interviewee four notes that, in the end, it is the profit and market capitalization which is relevant to link back to foresight for a publicly traded companies, while acknowledging it's not an easy task. Interviewee five identifies three

impact elements they follow: bottom line, commercial and supply security impact. For example, if a foresight project aimed at securing the supply chain is successful, it will have a significant positive impact on business continuity by preventing future supply security issues. Examples of how these can be further quantified are estimations in terms of lost production time or money saved through enabling new ideas. Interviewee five further elaborates that in their field of business, one has to be able to assess the effects of the future decisions made in relation to the rest of the business, so as not to end up cannibalizing own operations.

The quantitative measures for assessing foresight include various kinds of KPIs, targets and estimations. The KPIs described above are related to processes, projects, deliverables, and operations. These factors are reflected by their quantitative nature and clarity. These actions can be expected to have an impact on the organization. These actions function as tools to achieve potential impacts but are not necessarily measures of whether an organization has made an impact through foresight. This does not make these metrics less valid in any way. Metrics may be in place for monitoring that we are working towards things expected from us, promoting projects, and getting content out. However, if we understand the impact through how it affects decision-making, do these measures get us closer to understanding our influence? The next section discusses qualitative metrics and assessment methods used by sample organizations.

4.7.2 Qualitative measures

Qualitative measures offer insights beyond numerical data, aiming to provide context and understanding through holistic evaluation. This section delves into the qualitative measures employed by research sample organizations to evaluate the effectiveness and impact of their foresight initiatives. In this pursuit a diverse array of tools and methodologies are used by the sample organizations.

Surveys and feedback forms

Surveys and feedback forms of diverse kinds were the most used method for gathering information on the quality of the work and whether the foresight work has had an impact or not within the sample of this study. Internal surveys are used to, for example, evaluate and understand the quality of the work:

When supporting our identified businesses, we use a customer satisfaction survey in which our internal stakeholders evaluate the quality of foresight work to see if it has been good. And, whether it has provided answers to the questions that were hoped for. [Interviewee 1]

The level of sophistication in methods for gathering feedback varies between sample organizations. It can be, for example, an informal discussion after a meeting, question as a part of an email or a formal feedback form. Interviewee ten delves into the informal, yet effective feedback mechanism employed within their organization. They describe a simple process where feedback is casually solicited at the conclusion of meetings, often via email. Despite its lack of sophistication and structure, this approach proves valuable insights with minimal administrative effort, highlighting the organization's emphasis on efficiency and practicality. Interviewee nine described the components of the questionnaire they are using to gather understanding of the impact of their work. The questionnaire gathers inputs on whether the engagement with foresight team has had impact with various questions. The focus is on understanding whether engaging with them has impacted any of the teams plans or ideas:

We do a lot of engagements with teams, and we send out a questionnaire or survey after an engagement and we'll ask them things like, first of all did you enjoy this? Did the conversation feel focused for you? Did you get to important conversations? Do you feel like it was impactful for your work? That's a really key indicator that we look at. Did they feel like it impacted it? Then we'll ask, did it change any of your plans? [Interviewee 9]

Interestingly, these questions concentrate on examining the experiences of the employees who have engaged with forward-looking activities rather than for example asking for feedback on how well the foresight team is succeeding. If we assume that strategic foresight impact is created through collaboration, questions evaluating the impact on the thinking of a participant give a better picture of the change that happened within an individual. On the other hand, this approach requires foresight professionals and stakeholders to trust the quality of the work. Alternatively, other ways to assess the relevance and quality of the work must be found.

Plan B's

Often things do not play out quite like planned. Having plan Bs and contingency plans in place was a measure tactic used by a couple of sample organizations. These measures

concentrate on abilities to identify new opportunities and consider different possible futures:

Sometimes we measure our own success by whether or not we got a team to change or adjust their plans. When we worked with the team, let's say it was a team that was stress-testing a strategy. If it was a team doing that, we might look back and say OK, we spent however much time working in an engagement with them and at the end of it did their plan change at all from where it started to where it ended. Number one, do they feel like it is stronger? Were they able to confirm that that they're on the right track, and if not, how might we adjust it? And having just even sometimes the fact that they have considered other things and now have like Plan B's and in place, I feel like that that's a win sometimes. [Interviewee 9]

Interviewee nine described the stress-testing strategies of different teams and plans as one of their main tasks. This can be done, for example, by evaluating those plans against certain scenarios and how the plan would perform if that scenario were to materialize. Putting plans, calculations, and goals in question for others, in this case, the foresight unit, demands a lot from the organization's culture and the teams and foresight professionals engaging in the exercises.

Interviewee seven named risk mitigation as one of the drivers for the foresight work. While they confirmed enterprise metrics that are being tracked are set by another function and they cannot directly influence what is being measured, they must be able to demonstrate what they are doing. The main measure for risk mitigation is to make sure that teams have taken potential risks into account and have contingency plans in place speeding up their reaction time in times of crises. This can be seen as both a quantitative and qualitative measure. Quantitative in a sense that the number of plans count and qualitative in a sense that it is the expanded capacity to think alternative futures that counts.

Expert opinions

The opinions and views of foresight professionals and discussions between experts are also seen as means to assess the effectiveness of the work. Self-reflection and assessment within the foresight unit or team is important for planning ahead:

We have a briefing or discussion after the meeting. How did it go? What do we take from it and what are next steps. So, that is where we also discuss of course how they [stakeholders] perceived it [foresight work]. [Interviewee 10]

Interviewees discussed broadening perspectives and changing mindsets as an important impact that foresight can create. Yet, the hardship of measuring ‘changing mindsets’ is underlined:

Just whether or not we feel like it's a win if we get people to broaden their perspectives, to consider alternative futures. Sometimes it alone feels like a win, but at the corporate level at a higher level, I think measurement is hard. No, I'm positive that measurement is hard on something like this because it is broad in scope. [Interviewee 9]

Understanding that the future can be different from today is something all are not ready to welcome as a thought, but rather concentrate on planning ahead. Interviewee four reflects upon the prevalent discrepancy between acknowledging uncertainty and the common practice of overconfident planning among decision makers and managers within companies. They emphasize the potential transformative power of foresight in altering this mindset and fostering a deeper understanding of the dynamic nature of future outcomes. Another consultancy representative reflected upon the feedback they have received and stated that it is not only the decisions being made, but also the change of mindsets that are seen as impacts for the work:

The feedback we get is that the impact is not so much about the concrete decisions it's also about the mindset. That you actually become aware of the future dimension. Most people have lived their professional life not being aware of this future dimension in the same way. [Interviewee 3]

However, the opinions of the stakeholders are still needed to gain further insight. Even if the engagement with the participants could *feel* like a success, it is relevant to understand whether it was more than just a fun thing to spend your day in:

At the end of the day what we want to know, is it really impacting you or was it just a fun thing that you did? [Interviewee 9]

This section explores qualitative measures employed by research sample organizations to assess the impact of foresight initiatives. Methods include surveys, feedback forms, risk mitigation through contingency plans, expert opinions, and changing mindsets, emphasizing the challenge of quantifying impacts like broadening perspectives and shifting attitudes towards futures. The following section delves into the choice of having no measures in use, highlighting variations in organizational approaches.

4.7.3 No measures for impact assessment

Some interviewees reported that they have no metrics in place for impact assessment of foresight activities. Interviewee two even reflected on whether such measures are necessary and suggests that there is no intrinsic need to create metrics only for the sake of them:

In principle, it could be OK that if you have a clear focus on operations, then there could be a clear KPI that informs how the organization performs year after year? So, I think it could be justified. If I'm wondering if we could find one, I guess we could. [Interviewee 2]

The role of the unit and the expectations placed on it affect whether more precise measures are needed. On the other hand, interviewee two refers to management and stakeholders *knowing* the impact of the work. This, in turn, requires certain level of satisfaction, confidence and trust from the management in the work done by foresight professionals. Neither of the interviewees representing consultancies had come across methods of impact assessment in the organizations they had collaborated with:

I haven't come across any organizations that try to measure the impact of strategic foresight. [Interviewee 3]

There's a difference between measuring if something is happening and measuring the actual impact on the organization and what we're getting. So for the second part, no, I haven't seen it actually. [Interviewee 4]

Interviewee four, for example, reported on a maturity assessment model that they have used with customer organizations. The maturity model in use does not focus on the impact that can be created through strategic foresight work, but rather on different dimensions of organizational capabilities. The lack of structures for impact measurement takes the analysis to discuss the findings on whether impact measurement is something that foresight functions should strive to do.

4.8 Theme VI - Short-term metrics reflecting long-term realities

As the largest differentiator of strategic foresight work from other operations in an organization is that forward-looking work can often be seen to have a more far-reaching time horizon. Foresight can inform the decisions made today that influence will only be seen in years or even decades. Yet, interviewees primarily think that the assessment of the work should happen according to the organization's normal business cycle, often

being a fiscal year. This finding takes us further to the sixth theme of this thesis. The sixth theme is organized around the concept of assessment timeframe. This theme discusses the factors influencing the decision on assessment based on the regular business cycles.

Interviewees suggest that organizational reward systems are one of the reasons leading to the short-termism of measuring the work and its impact. Rewarding systems concentrated on short term results are more concentrated on “administering profitability” than creating means for future success. Many interviewees discussed incentives; particularly how lacking incentives hampers foresight work. To encourage behavior, incentives can take tangible and intangible forms. But if there are no incentives for making forward-looking decisions, why would anyone be encouraged to make such decisions? Identifying the ones who have made the decisions that have led to higher profitability is a challenge, but not impossible according to one interviewee:

It's a practical shortcoming that that we feel we need to pay the people who sometimes only administer profitability, while we should actually identify those people who have championed these new business units or these changes which led to this higher profitability, which is difficult but not impossible. [Interviewee 6]

While several other interviewees mentioned the challenge of incentivization, they largely agreed that alignment with business cycle was the number one factor affecting the timeframe of measures set for foresight work in organizations. This finding runs counter to the goal of rewarding and evaluating the effects in the long term:

I would say if the HR and bonus and whatever scheme would also be bi-annual, I would also set bi-annual rhythms of assessing that. I think that should be just synchronized, but I think in 99% of all cases that's one year. [Interviewee 10]

You have to make sure it's comparable if you want to follow something over time. Same time period, but otherwise I think it doesn't matter. You have to be consistent to have comparable data. [Interviewee 11]

The interviewees reflect that this is how it goes and within the framework of these restrictions, foresight must also get along. Interviewee one expresses a desire for longer assessment periods to truly evaluate the impact and validity of work within the organization, highlighting the “staggeringly difficult” challenge of aligning long-term planning with shorter-term metrics and business cycles, especially in industries like theirs with investment horizons extended up to 30 years. The resources are scarce and those are

to be used wisely. Interviewee twelve asserts that within their organization, performance measurement occurs quarterly, bi-annually, or at least annually, emphasizing the importance of tangible indicators that can be documented and reported. Interviewee five also notes that if the decision made is expected to bring value only years from now, it is not functional that the plans should be constantly changed:

For us, if you ask why 12 months, why not six months? Why not nine months or 18 or 24? I don't have a more sophisticated answer than that it simply aligns with our business cycle and also with the limited resources we have, we can actually pull that one off. I believe in a way that it will make sense, because if we try to do something, if we try to change our plans every six months and the whole idea of a project is going to deliver value in six years or 10 years from now, it might be that you did not really identify the biggest of the best opportunities in the first place. [Interviewee 5]

The findings are suggesting even opposing forces in play; at the same time as the short-sightedness is seen as a challenge, foresight activities should be assessed according to an organization's normal business cycle, most often being one year. How to create such measures that would not fall into short-sightedness, yet would tell us about effectiveness of the work in the relatively short-term timeframe?

4.8.1 Quantifying the unquantifiable?

The study findings indicate that practices and structures for assessing and measuring strategic foresight and its impact are limited. Considering the variety of attempts of academia to create structures, frameworks, and evaluation schemas for assessment, some might consider this at least partly as a surprise. Interviewee four further suggested that measuring impact in the long term should be a task for the academia, not organizations. The analysis suggests that organizational measures and assessment models in use are rather described by simplicity and ease of use than comprehensiveness and sophistication. Interviewee five describes that simple metrics enhance comparability and reduce the need for elaborate explanations, as more sophisticated methodological models ultimately rely on multiple layers of assumptions. Interviewee ten describes doing the assessment by foot:

I recognize that we do it a bit by foot. You would say very almost casual, but at least so far for us is very good output at minimum effort. [Interviewee 10]

Next, findings present some views on whether impact of foresight is something that can even be measured in the circumstances of a global organization. This part critically examines whether measuring the impact, given the limited resources, is something worth pursuing in the light of this analysis. This is a question interviewee pondered on stating that it is not measuring the role of foresight is or should be about:

You had a very good question. Like, can you measure foresight? I'm not sure that is what the role should be about. I know that stakeholders in the organization love to see numbers. But I would say it's almost impossible. [Interviewee 11]

Especially in the longer-term retrospectives were seen as something that does not function in the global firm context. The impact you can make is more dependent on the ability of communicating the message to the organization:

Absolute quantification to the fact that, hey, I remember back 15 years ago when you gave this advice and now, we got 80% of it. In a way, however, that does not work in this context. It doesn't work that way, even if the time span is five years, not such a retrospective. In an organization, if we go back X years and say, hey, you did a really good thing, that's not it. The impact comes so much from how well you can communicate your message. [Interviewee 2]

The trap could be that your incredibly good in in predicting stuff or so, but you are not successful in transporting this conviction to the organization. [Interviewee 10]

Interviewee eight also highlights the need to understand what is believable and to whom:

It's not always the data that people need to inform decision-making or to let them know that something is working or needs improvement. This is a really interesting question about what is credible and to whom. [Interviewee 8]

The more sophisticated the metrics, the greater the degree of caution the interviewee five feels they should be taken. This further underscores the importance of the question whether such measures should be applied:

The fact that you're doing [foresight] does not necessarily equal that you're doing it well. So I'm a bit skeptical to some of the measurements that I see being suggested. Especially the more sophisticated they get the more I find trouble buying them. [Interviewee 5]

History

As discussed earlier in this chapter, foresight functions in global organizations have diverse backgrounds when it comes to factors such as goals, purposes, maturity, and history. Having a longer history within an organization, the position of the unit might be more strongly instilled into the organization. This in turn, can help in the preservation of organizational memory and the ability to look back in time, and retrospectively state that foresight has contributed to the decisions made in the past, which today are significant for the business:

We benefit a bit in the fact that this role has been around the company for almost 20 years, so we can look back and say well, you know, we were involved in these conversations that helped to make these decisions and it prepared us for filling the blank. So, we can look backwards and that does help. [Interviewee 9]

As far as I know, more extensive foresight exercises to support strategy work have been carried out regularly for at least twenty years. The fact that this [foresight] is not completely unknown to this global organization has probably made it easier that since our operations became permanent, they have been well received. [Interviewee 12]

History of foresight function is not something that can be bought. In the sample organizations of this study, foresight is not evaluated based on the accuracy of the predictions. Based on this observation, one could suggest that the practices have evolved, since only a decade ago research suggested that success of futures research is often evaluated based on accuracy of future predictions (Rohrbeck, 2012). Rohrbeck (2012), too, suggests that although looking at the predictions helps us in improving practices, the more crucial factor to study is the impact and value futures research and practice can create. While no organization reported that their success or impact would be measured based solely on the accuracy of their predictions, the correctness of the anticipated changes was seen as an important factor affecting the credibility of the foresight function within an organization. Therefore, the correctness of findings and insights shared across the organization is a prerequisite for trustworthy foresight practice.

We're not measured against what we anticipate to happen. This is not being measured, but I could add that of course it defines our credibility long term. -- I think that it is very important that we are with a larger part of our assumptions right so that the developments actually go this way. Because if we don't have that, people will not trust us, and they will not work with what

we do. So, while this is not a fixed KPI or so, it is a very important prerequisite that we have. [Interviewee 10]

This requires the foresight unit to identify the drivers of change that are relevant to the business in question in a rapidly changing environment. This in turn requires a broad knowledge of the industry.

The sixth theme discusses the challenge of aligning the assessment of strategic foresight work within organizations normal, often relatively short-term business cycles while recognizing the inherently long-term nature of foresight work. The tension arises from organizational reward systems emphasizing short-term metrics, often at the expense of recognizing individuals who have contributed to organizations long-term success. Despite the call for a more extended assessment horizons, interviewees express the practical constraints tied to the business environments.

4.9 Chapter summary

The fourth chapter presents the themes formed based on thematic analysis and their content. The six themes are not mutually exclusive but rather coexist in a dynamic and interrelated manner. The thesis has done its best to acknowledge the complexity and nuance of the interconnected relationships between themes and findings.

The first section of the findings chapter explores the concept of impact within the realm of strategic foresight. This section has not been defined as a separate theme, as for its understanding has been accumulated according to a predetermined idea. The findings related to impact definition also feed other themes and related analysis. The section emphasizes the contextual and subjective nature of impact, rejecting one over-arching definition. Half of the interviewees associate impact with change, particularly in organizational decision-making. While this is an interesting finding, the thesis cautions against equating measurable actions with *real* impact. The section aims to underline the complexity of determining impact through example, where a hypothetical scenario of widespread trend reports does not guarantee desired impacts within an organization. This study refrains from prescribing a universal definition for foresight impact, acknowledging the diversity of perspectives.

The following six themes were identified and constructed by the author in the thematic analysis process:

- 1) Structures direct impact's course
- 2) You can lead a horse to water, but you can't make it drink
- 3) Impact creation is a collaborative effort
- 4) Measuring tomorrow is a battle against headwind
- 5) Expert's views outweigh figures
- 6) Short-term metrics reflecting long-term realities

The first theme underscores the complex relationship between the multifaceted goals of strategic foresight and the organizational structures that house the variety of activities. It emphasizes that the impact of foresight is not solely determined by its goals but is profoundly influenced by how these activities are integrated into an organization. This sets the stage for further exploration into organizational structures on foresight impact. The findings acknowledge different alternative organizational locations, but the strategy unit was considered as the most prominent place to be part of to make an impact.

The second theme highlights diversity of thought, effective communication, and adaptability as key ingredients of successful foresight teams. The impact of foresight, as highlighted by the interviewees, hinges not only on the capabilities of the foresight unit but also on the organizational readiness to embrace and act upon the insights provided. The proverbial challenge of leading the horse to water remains, but the greater impact of foresight teams lies in their ability to help the organization to take a sip every now and then. The evolving interest in foresight work within corporations demonstrates a move beyond mere processes and beautiful visions. The recognition that social dynamics play a crucial role in how foresight is perceived and embraced has become one of the key considerations of foresight leaders. This highlights the importance of developing and incorporating practices that foster active engagement and participation.

Many interviewees emphasized that everyone in an organization engages in foresight, knowingly or not. The foresight unit's role is to act as a strategic partner for various organizational units, fostering systematic approaches. The third theme brings us to the central idea echoed throughout all interviews – impact creation is not a solo venture; it requires a collective effort and active participation of stakeholders, emphasizing the interconnectedness of foresight work within an organization. However, some interviewees experienced low or no engagement, leading to challenges in meeting expectations. Finding a balance is tricky, as strategic foresight activities should not be

just a box-ticking exercise and often requires not only time but also a willingness of stakeholders to deal with often even unpleasant alternative futures. Moving beyond collaboration, the critical role of stakeholder involvement in strategic foresight impact is explored. The support of management is key, as leaders must actively not only champion and allocate resources to foresight activities, but also engage with alternative futures themselves. Without backing, foresight efforts struggle to adapt in a changing business landscape.

While management engagement is crucial in creating impact through strategic foresight, that can be considered as a tip of the iceberg, when it comes to challenges of measuring the impact of strategic foresight discussed in the fourth theme of analysis. The subjective nature of future-related knowledge, risks of short-sighted metrics, and the complexities of simplification underscore the difficulty in quantifying foresight outcomes. Employee turnover, industry dynamics, and ownership structures further complicate the measurement landscape in the longer term. There is some evidence to suggest that family-owned businesses may have a comparative advantage in long-term planning, potentially due to their ability to prioritize continuity over short-term financial gains, whereas corporate organizations often encounter difficulties in striking a balance between long-term strategies and short-term incentives driven by, for example, bonuses and career advancement considerations.

Several generic challenges related to measuring impact in business are identified, such as the risk of key performance indicators (KPIs) becoming the goal rather than a reflection of the activity. Additionally, the importance of considering the audience for metrics is stressed, as metrics tailored to a specific organizational level may limit the broader benefits of foresight activities. Finally, the fourth theme underscores the need for a common understanding of strategic foresight's goals and possibilities among all stakeholders. Lack of understanding can lead to poorly fitting goals and disappointment among those involved. The consensus among interviewees is that the vision and objectives for strategic foresight should be set at the highest levels of the organization, emphasizing the importance of top-down support, down-top information flow, and alignment with organizational goals.

The fifth theme introduces the current strategic foresight assessment and measuring activities in sample organizations. The fifth theme discusses the tension between relying

on experts' perspectives and quantitative measures for assessing strategic foresight and its impact. While quantitative measures, such as KPIs, are part of the landscape, many interviewees also recognize the value of expert opinions and qualitative assessments. Metrics like KPIs track progress and identify innovation opportunities, yet those fail to capture the variety of impacts foresight work might have. Qualitative measures, including surveys and feedback forms with open-ended questions, as well as expert opinions, may offer a more holistic view. Some organizations, however, operate without formal metrics, relying on management's intuitive understanding and trust. The discussion delves into the necessity of formal impact measurement structures for foresight functions, raising the question related to practicality and relevance.

The last, sixth theme reveals one paradoxical finding of this study; while understanding the impacts of future-related decisions would require a broader temporal perspective, organizational metrics predominantly favor short-term results. This tension prompts the question of how to establish measures that balance short-term accountability without breaking down to short-sightedness and simplification. Research data indicates that measuring the impact over a longer period in the current operating environment is not applicable practice.

Moreover, the last theme highlights a prevailing preference for simple metrics over comprehensive frameworks. Interviewees emphasize the challenge of quantifying the impact of foresight, suggesting that the true impact lies in effective communication, engagement, and decision-making support rather than absolute quantification. The history of foresight function within organizations can influence the credibility of foresight function and the ability to retrospectively demonstrate contributions to significant business decisions made in the past. Ultimately, while accuracy in future trajectories is not the sole measure of success, some level of correctness of insights shared remains important for establishing trust and credibility among stakeholders.

This summary of findings concludes the analysis part of this thesis. The analysis has provided a comprehensive picture of the current state of impact assessment and measurement of strategic foresight activities and practices in global firms. The analysis was divided into six themes. Themes are not explicit, but blend into each other, while retaining their own distinctive findings that contribute to the overall analysis. Next, these findings are discussed and interpreted in the light of existing research and knowledge.

5 Discussion and conclusion

5.1 Discussion on findings

The measurement of strategic foresight and its impact within global firms has been an understudied subject. With limited existing knowledge, this thesis takes up the challenge and aims to increase the understanding of practices today. The primary goal is to provide a deeper understanding of current practices in organizations, shedding light on the complex relationship between strategic foresight and its impacts within global firms.

This thesis seeks answers to three research questions. First, the thesis explores how foresight leaders in global firms interpret the impact of strategic foresight. Further, the thesis delves into the challenges and enablers of foresight and its measurement. Ultimately, the thesis seeks answer to whether and how the foresight efforts are currently assessed. The thesis took qualitative research approach, examining empirical data from twelve semi-structured interviews with strategic foresight leaders (8), consultants (2) and academia professors (2). All interviews were transcribed, and thematic analysis was conducted on novel research material. In this chapter, existing knowledge is synthesized with novel findings to enhance comprehension of impact assessment of organizational strategic foresight practices. The discussion part of the chapter builds around three research questions set for the study. The concept of impact, as well as the six themes presented in the findings chapter are discussed in detail.

5.1.1 RQ1 - What is impact on the scope of strategic foresight?

The first part of the findings concentrated on clarifying the concept of impact and how it is understood in the context of strategic foresight by interviewees of this study. The inquiry into "*What is impact in the scope of strategic foresight?*" was approached qualitatively, constructing the understanding of impact by analyzing empirical findings. The literature review underlined that forward-looking work is always fraught with ambiguity, and the meaning of "impact" is highly contextual. This variability in meaning is further complicated by the dynamic and ever-changing nature of the factors at play. In essence, what constitutes an impact is constantly shifting within the environment (see e.g., Calof et al., 2012; Calof & Smith, 2012; Meissner, 2012; Rollwagen et al., 2008). Empirical findings are in line with previous research stating that there is no single definition or set criteria for foresight impact. What is considered "impactful" varies

between different cases and organizations, mainly influenced by the perspectives of those defining. Given this perspective, it is important to evaluate the extent of time and effort devoted to grasping the concept versus presuming a shared understanding among various stakeholders within the organization when discussing impact.

While the findings of the research support the existing knowledge, confirming the ambiguity and contextuality, the analysis further proposes that organizational futurists associate impact with change they can initiate or create, as half of the interviewees referred to change when asked how they would define impact in the context of strategic foresight. This is in line with previous research suggesting foresight's most significant aspect is to have an impact on decision-making (Calof & Smith, 2012; Havas et al., 2010). Other scholars, too, address strategic decision making and strategic management as the aims for foresight activities (see e.g., Choo, 1996; Slaughter, 1997). A change in this context can also refer to a decision not to do something or a decision to stick to the current ways of doing things. Further, the study suggests that it is not only the decisions being made, but also the ideas, ideologies, and thoughts the work is able to provoke. Hayward (2004) suggests that by providing tools such as the viable system method (VSM) to facilitate foresight can lead people to think differently, but the entire process of transformation should be facilitated instead of only identifying the potential problems in the system. Other definitions given to "impact" included future-proofing business (2) and being prepared for the futures (1), being closely related to the concept of change. Only one of the interviewees, representing academia, defined impact as long-term desired outcomes.

The research has strong evidence that impact is created through other parties making decisions in the organization and therefore the greater impact of organizational futurists is always indirect (Theme II). Thus, impact of foresight from the point of view of change is rather seen in decisions made, than in the further-reaching consequences.

The analysis further suggests that impact and action are constructs that should be distinct from each other. Actions taken to create impact do not guarantee that the desired impact will be achieved. As discussed in the literature review, the take on impacts might be lacking due to the potential unintended impacts (Amanatidou & Guy, 2008).

This thesis makes no claim that there would be one all-encompassing definition for impact in this context. Further, this work suggests that finding one is not worth pursuing, since

it will always be dependent on the context and the operating environment. Yet, the finding that the impact of foresight is understood through change by half of the interviewees offers an interesting lens for further analysis. Organizational futurists are interested in whether their actions and the knowledge they produce and disseminate have brought about change. Consequently, this research suggests the interest is not necessarily in the impacts that the decisions themselves might have in the longer term, but rather on the foresight units' ability to impact the decision-making processes today.

5.1.2 RQ2 - What are the barriers and enablers of impactful strategic foresight in global firms?

The second research question was set to better understand the context where impact of strategic foresight is created. The analysis identifies several barriers and enablers of impactful strategic foresight and provides support for existing research with empirical evidence throughout the identified themes. The enabling factors and challenges in this sample are largely related to the same factors in play. While stakeholder engagement is seen as a major enabler, lack of it can be a huge challenge. Equally, when resources are needed to enable foresight work, the lack of resources makes work harder or even impossible. Additionally, while each organization is unique, many of the identified challenges and enablers are shared between organizations. Next, barriers and enablers are broken down to discuss the findings in more detail.

Barriers to Impactful Strategic Foresight

The following section explores the identified barriers and challenges of strategic foresight and its impact, revealing the subjectivity and uncertainty that characterizes all futures-related information. The feasibility of employing quantifiable metrics in assessing the impact of foresight initiatives is questioned, with recognition of the diverse goals and purposes in foresight. Furthermore, organizational dynamics, biases, resistance, and short-term focus within organizations are examined, shedding light on the interplay between organizational culture, incentivization, and foresight success. The industry-specific nuances that shape the metrics-setting process and long-term planning horizons are also discussed.

When it comes to impact assessment, the findings highlight the subjective nature of all futures related information. The analysis poses the fundamental question about the

feasibility of quantifiable metrics to a concept that is inherently subjective, uncertain, and hypothetical by nature and that serves so many different goals and purposes. The nature of the knowledge related to futures was one of the greatest barriers for impact assessment, and it must be considered when assessing foresight. For example, Makarova & Sokolova (2014) highlighted the need for recognizing that foresight studies are exploratory, involving creative elements and being always linked to certain degree of uncertainty.

From the point of view of organizational futurists, the dependence of others can be seen both as an enabler and barrier, since findings suggest that no long-term decisions are ever made only because of foresight units or experts alone. Previous research suggests that corporate executives are more comfortable making decisions based on data and facts, even though information would be incomplete. Therefore, welcoming inputs from foresight can hinder executives from making decisions and sometimes makes them feel uncomfortable about their final decisions. (Rohrbeck, 2011). Rohrbeck (2011, 114) names five procedural barriers to foresight, which of three are related to this discussion: 1) *change is not judged as relevant by foresighter*; 2) *decision makers are not convinced about relevance of change*; and 3) *responsible persons for acting are not convinced and prevent change*. These three barriers were identified as potential hinders for foresight success in this study sample as well.

One of the identified barriers was the hardship of finding a common language and understanding of what can be expected from foresight work. When it comes to strategic foresight, stakeholders make it or break it (Theme III). But convincing stakeholders about the relevance of the change requires communication and collaboration between the parties involved. Findings suggest that strategic foresight work in practice within large corporations is still today often widely unknown to the greater part of the organization and educating the employees is seen as part of the job of organizational futurists. The question that remains largely dependent on context and organizational settings where foresight experts operate is, how the work is being received. The analysis suggests that the choices made by foresight leaders in terms of goals, practices and priorities can impact how these hindrances are perceived. This finding is in line with previous research that suggests considering the operating environment before engaging with others (Calof et al., 2012).

Another potential explanation to the challenge of finding a common ground is backed by a finding that suggests that organizations can have built-in valuation systems that might determine who are being listened to, and that these systems are not always in favor of organizational futurists (Theme II). Reasons that were reflected upon included, for example, study and career background different from stakeholders they should be able to convince. A report by CIFS (n.d.) suggests that executives may fall victim to confirmation bias when seeking for input from those who agree with them, creating a culture where dissenting opinions are ignored. This can result in essential information being overlooked or dismissed, leading to a “self-imposed censorship” within an organization. As a result, potential game-changing ideas or technologies may be disregarded, ultimately harming the organization's ability to adapt and thrive. (CIFS, n.d., p. 19). On the other hand, previous literature suggests that internal organizational futurists have not always been the best salespeople for their own insights either (S. Smith & Cox-Smith, 2023). In the light of these results, it should not be assumed that the parties understand futures related information in the same way and special attention should be paid to this if the information is to be used to influence operations. The same notation was made by Sinkkilä's (2021) dissertation that suggested putting greater emphasis to communication both during and after a foresight project to improve foresight in organizations.

However, it is not always about common understanding and communication. It can also be a matter of resistance. Nestik (2018) discusses the unwillingness to consider longer-term futures that may stem from cognitive dissonance, as the likelihood of events beyond our control are often underestimated. Wayland (2015) suggests that understanding change requires us to confront the limitations of our knowledge and perceptions, as well as the fundamental nature of the world around us, which is a challenging task, particularly during the times of revolutionary changes. These findings take one to reflect on previous research that identified overcoming strategic inertia to be a psychological challenge (Wright et al., 2008). Discussion around alternative futures can be difficult, intimidating, and even frightening. The findings of this study further confirm the observation that organizational support for foresight units and open cultures are key factors determining their impact (Ruff, 2015).

Despite finding many examples of value contribution in foresight case studies, Rohrbeck (2012) noted that several of the original managers were not around to reap the rewards in the end. This same challenge was highlighted by interviewees stating that they would be

surprised to be left to see the impact of the change they put forward. And it is a perfectly valid and human question to consider why one should be interested in what will happen to the organization in ten years' time, if or when one plans to switch to other positions long before that, especially if it is not rewarded in the short term. This finding takes us to another significant barrier for impact assessment on the long-term, which is the short-term focus on goals and incentivization (Theme VI). One contributing factor to the short-term focus is identified in the organizational rewarding systems and “*how corporates function*”. The emphasis on short-term results, as opposed to recognizing individuals contributing to long-term success, is seen as a hindrance. Interviewees express frustration with incentivization challenges, noting that rewarding systems often de-prioritize those championing forward-looking decisions. Linstone (1973) discussed the short planning horizon and short memory of organizations already fifty years ago, noting that most are concerned with immediate time, while discounting the future.

Although the identified challenges are same ones for the most parts, some differences between interviewees emerge. One of the differences has to do with metrics setting. Someone felt that setting indicators was an obvious necessity, while others found it extremely challenging and even impossible. This is yet another topic for further research. Yet, researcher ponders whether this discrepancy could be partly attributed to the fact that interviewees represent a variety of industries. The interviewee working in the FMCG industry called for quantifiable metrics and the importance of metrics being comparable with all other projects. An interviewee representing an infrastructure and investment heavy energy sector, on the other hand, said that it could take up to 30 years for an investment decision to bring return on the investment. With such long-reaching time horizons, the reliability and predictability of the figures is close to zero. This is in line with previous research noting the timeframe of forward-looking work depends on the industry and can exceed 20 years (Vecchiato & Roveda, 2010). However, the industry in question should be taken into account if and when considering the metrics.

Enablers of impactful strategic foresight

This section delves into the identified enablers shaping impactful strategic foresight, beginning with the crucial role of stakeholders. Furthermore, the significance of organizational location is explored, particularly within the strategy unit. Additionally, the role of collaboration is discussed as not merely an enabler but a fundamental requirement

for foresight success. Moreover, the importance of diversity in thought and backgrounds within foresight teams are highlighted. Finally, the practice of continuous reflection and awareness among foresight professionals is highlighted.

From the perspective of creating an impact through strategic foresight, internal futurists have a crucial role, as discussed in previous literature (see e.g., Hines, 2003, 2016). The extensive discussion surrounding the evaluation of the role of the organizational foresight experts (Theme II) throughout the data came as a partial surprise to the researcher, as foresight professionals discussed insights on numerous occasions. The significance of changes in the operating environment for the business must be understood from the perspective of the organization in question. The procedural barrier of foresight experts' biases has been attempted to tackle by taking care of the diversity of teams and thinking, and by involving a wide range of staff with relevant expertise. The diversity within foresight has been addressed to improve the productivity of foresight engagements as well as to create a Medici-effect, which arises when individuals from diverse fields, backgrounds, and disciplines come together to create novel ideas and new innovations (Nestik, 2018).

The findings indicate that one enabler for impactful strategic foresight is close linkages to organizations strategy unit (Theme I). While all interviewees acknowledge various alternative locations for foresight unit within global firms, results show a strong indication that the strategy unit is the most impactful place to be a part of. What was particularly interesting was that two companies had moved from the innovation unit to become part of the strategy unit. On the other hand, those in other units of the respective organizations reported detachment in relation to the strategy unit. Generally, previous research has not studied the impact of location and information on organizational location of foresight units or work is not generally available. Also, the work can be spread across various parts of the organization instead of a single unit, as the findings show. However, a possible explanation for the popularity of strategy unit might be that in large companies, strategy unit is often the place where alternative futures of the company are considered in the longer term. The findings offer another alternative explanation for this result, and it is that from the strategy unit, it can be easier to reach the right stakeholders and thus influence the decisions made.

The third theme of the analysis is built around perhaps the most significant enabler - collaboration. Instead of calling it an enabler, it could be considered as a requirement based on the findings of this study. Comments such as “*your project is about to have zero impact*” and “*your work won't move a needle*” are examples of how strongly organizational futurists emphasize the importance of collaboration and engagement of other members of the organization. This finding is in line with, for example Hines (2003) who states that organizational futurist should serve as a coalition-builder, not as a lone ranger.

One lens through which the collaboration aspect can be reviewed is whether foresight unit pushes information to other parts of the business, or if the business is pulling the information. The analysis suggests that sample organizations represented both end of this spectrum. Some of the foresight units are in a position that could be described as a unit that composes trend reports and outlooks for the business and then seeks to get engagement within and outside the organization to disseminate the information. On the other end of the spectrum foresight unit plays a more central role, for example, as a facilitator for strategy network. Hence, it could conceivably be hypothesized that potential impact is greater when the foresight unit is the one responsible of bringing the people together and facilitating the collaboration compared to, for example, a possibility to present the findings of a study you made for a group of stakeholders that you might not otherwise have access to.

However, findings indicate that even push and pull ideology involves more complex internal factors in play within organizations that could be studied further. While the pull from the organization is seen as a positive thing, sample organization recognizes that some of the pull comes from a leadership requirement. While this seemingly creates a pull situation, the motivation is not necessarily from the team itself. Previous research has highlighted the need to avoid practicing foresight from becoming a tick-a-box activity (see e.g., Ahlqvist & Kohl, 2016). The view of the foresight leader was in line with this, since they expressed their intention of pushing back to teams that are after simple answers with as little engagement as possible. Yet, findings indicate that this is something organizational futurists sometimes struggle with.

Another enabler that largely unites the interviewees is the diversity of thought and backgrounds of future thinkers. Diversity emerges as a recurring theme, not only in terms

of team composition but also in the expertise and backgrounds of individuals involved. This finding is in line with previous research. For example, Ruff's (2015, p. 38) paper reflecting practical learnings from foresight activities also highlighted the exchange of perspectives between diverse disciplinary, cultural, and regional backgrounds. Further, previous research shows that the change in mental models occurs indirectly when actors in the foresight system interact with one another (Dufva & Ahlqvist, 2015).

Hines' (2003) audit of ten questions for organizational futurist, including questions regarding the use of time, audience of the foresight work and tools in use to do the work, succeeds in being relevant after 20 years of publication, although the adoption of foresight in organizations have taken steps further. Researcher was happy to witness the amount of self-reflection and critical introspection the interviewees went through during the interviews. It is not that all the wisdom lives within the foresight experts and the interviewees in this sample were gratifyingly aware of it. Foresight needs other units and individuals to participate in the work and bring their contextual wisdom with them. For different organizations and distinct stages, this means different internal and external expertise. Decision-makers are needed for decisions to be made based on the work, but often the fruitful discussions can also be with the ones part of the production and planning processes instead of the ones making the final decisions. Considering these results, this study initially suggests that the impact of foresight is also enabled by the ability of the foresight professionals to engage in self-reflection and awareness in their work, which can contribute to the continuous development of the foresight methods and practices.

The second question sought to increase understanding of the challenges and enablers of making an impact with foresight. It should be noted, however, that most of the barriers and enablers identified can be considered universal to any business function in the global context. In other words, they are not foresight specific. Whether it is a question of resources, commitment, communication, one most likely stumble across the same enablers and challenges whether it is a question of, for example, marketing, HR, or strategy units in general.

5.1.3 RQ3 – How is strategic foresight impact measured in global firms?

The third research question was clarified followingly: “*question is set to understand how strategic foresight assessment and impact measurement in global organizations is done, if at all?*” The concise answer, derived from the findings, is that it is, and it is not.

The current measures identified in this study include KPI's of different kind, financial figures, goals for information dissemination and thought leadership as well as surveys and feedback forms of different kind (Theme V). The goals and purposes of these metrics were to understand variety of objects ranging from stakeholder happiness to speed of reaction and from change of mindsets to amount of innovation opportunities. Many of these indicators help in understanding whether the company is more futures ready and whether something has changed. Reaching stakeholder happiness was described as a journey colored by ranging emotions along the way, while contingency plans in place can communicate on increased resilience of the business. Notably, both consultancy representatives reported that they had not encountered organizations assessing the impact of their strategic foresight activities where measures for action level had been seen. These experiences are also in line with the findings of this study.

The analysis further suggests an inherent conflict between the long-term nature of strategic foresight and the prevailing short-term assessment cycles guided by organizational structures. Despite the potentially far-reaching impacts of foresight work, interviewees are in strong alignment following the organization's typical business cycle, often condensed into a fiscal year.

As mentioned, the role of strategic foresight experts in creating an impact is indirect. This, in turn, complicates the assessment and measurability of the impacts. On the other hand, there were only few indications that the decisions made would be viewed retrospectively from this point of view in sample organizations. On the contrary, the importance of having a history as a foresight unit was highlighted when foresight professionals justify their own actions in support of making decisions. The fact that foresight unit have been around longer naturally allows to refer to past decisions, where the work of foresight has had an impact on decisions. However, no concrete follow-up metrics have been set for this in sample organizations. Rather, these impacts are to support in the confirmation of position and existence in organization, if necessary.

The theoretical part of this thesis went to great lengths to explore existing frameworks and models for foresight and futures assessment and evaluation (2.4.2 Frameworks for foresight and futures assessment). Despite the variety of suggestions of academia, no organizational futurists reported on the use, nor a need or a desire for, a systematic framework for impact assessment. The analysis suggests that organizational measures and

assessment models in use are rather described by simplicity and ease of use than comprehensiveness and sophistication. To comprehensively evaluate the impact of foresight within organizations over an extended timeframe, this study underscores the importance of more than just finding resources or establishing assessment frameworks. It emphasizes the necessity of identifying the intrinsic need and motivation to engage in such endeavors. At present, the research indicates that the need to assess the impact of strategic foresight work arises not from the explicit desire of foresight experts and leaders to know how well their efforts perform, but from the external requirements of stakeholders. These measures, as evidenced in this study, are concentrated on the shorter-term results and evidence.

Consultancy representatives referred to maturity models as a way of understanding the state of the firm in relation to futures. The maturity models say a lot about how an organization succeeds in comparison with others and can, for example, help both internal and external experts to understand how they should focus their efforts. And of course, it could also be used as an internal evaluation mechanism. But no link between impact of strategic foresight and maturity models, such as Rohrbeck's (2011) Maturity Model for the Future Orientation can be drawn without further research on the topic.

Further complicating the assessment landscape is the tension between the desire for simplicity in assessment models and the need for comprehensive and sophisticated approaches (Theme VI). For example, Vataja et al. (2019) compares credible foresight evaluation to quality foresight work in general, listing following factors as describing the process: participatory and interactive by nature, considers multiple viewpoints, and is seen as a part of a larger whole. This study seems to contradict with the description at least partly, as it seems that organizational futurists tend to favor straightforward, easy-to-use metrics to ensure comparability and avoid the complexities associated with explaining intricate methodological models. This indicates that there are either no resources available to assess the impact thoroughly or the use of limited resources for that purpose is not considered useful from the operational point of view. While resources are always scarce, the researcher wants to suggest that the cause lies primarily in the latter. This finding runs partly in counter with previous research that has called for the importance of both frameworks and resources (see e.g., Gardner & Bishop, 2019). At the same time as the pressure to demonstrate results is experienced, impact assessment should be an easy exercise. The global context adds another layer of complexity to the assessment

of foresight impact. Measuring success becomes a daunting task, given limited resources and the skepticism expressed by interviewees about the feasibility of quantifying the often-intangible contributions of foresight work. The emphasis shifts toward effective communication of foresight messages rather than relying on retrospective measures that may not function well in a global organizational context that is in constant flux. This further confirms the suggestion of creating a shared understanding of motivation and reasoning behind the metrics before determining those.

One of the issues that emerges from these findings is that the level of sophistication of the metrics in use do not tell us much about how impactful foresight is within an organization (Theme VI). Further, no metrics in use does not equal weak or less impactful foresight culture. Prior research on formal evaluation of foresight programs, too, suggests that the success of a foresight program is more dependent on political positioning than the quality of the work. Effective programs engage decision-makers through built-in channels, fostering a sense of ownership. Conversely, if it is not backed by stakeholders, even high-quality work may have limited impact. (Johnston & Cagnin, 2011).

In conclusion, the last part has highlighted the challenges posed by short-term assessment cycles, incentivization structures, and the evolving nature of assessment practices. While the researcher initially intended to address the question regarding various metrics in use, they ultimately found themselves navigating the complexities inherent to the questions under examination. It prompts reflection on how organizations can strike a balance between short-term metrics and long-term impact and underscores the need for further exploration in the field. The findings bear implications for both the theoretical understanding and practical implementation of strategic foresight within organizational contexts. On a positive note, the findings indicate that while some level of accuracy increases the credibility, the foresight work done in global firms is not assessed based on accuracy of the findings, opposing from previous research and claims (see e.g., Hines, 2016). Based on this, can an assumption be made that the industry is moving forward?

Finally, the results suggest that strategic foresight in global organizations is in flux, constantly changing. While we strive for comparability of chosen measures, we recognize that the focus of foresight is evolving with the greater goals of organizations. As Rollwagen et al. (2008 p. 338-9) puts it “At the end of the day, foresight should contribute to improving the competitive situation of the company by identifying emerging risks and

new business fields.” In one moment, the aim might be to identify new opportunities and in the next, to ensure the continuation of existing businesses. Can an assumption be made that businesses are still searching for ways to deal with organizational amoebas such as foresight? And while they need the expertise and methods of systematically looking towards futures, they don’t necessarily know what to expect from it – and how could they? Since the only thing certain is that nothing in the future is certain.

5.2 Conclusion

In conclusion, this thesis provides an exploration of how global organizations perceive and assess the impact of strategic foresight. There is no sufficient evidence to support the claim that this study provides a comprehensive picture of impact assessment within global firms. Further, the purpose is not to provide a new framework or model on how foresight should be measured. Instead, this is one attempt to increase knowledge of impact assessment practices in global firms. Further, this exploration has raised new questions and considerations for foresight professional aiming to create impact.

The qualitative research approach, employing twelve semi-structured interviews, offers nuanced insights into the complex relationship between strategic foresight and its effects within global firms. Assessing and measuring strategic foresight and its impact faces several barriers and limitations, while interviewees also acknowledged several enablers too. Despite various attempts by academia to create structures and frameworks for foresight assessment, no comprehensive models are in use. The prevailing approach currently used in organizations is characterized by simple and easy-to-understand metric, aiming for comparability, and avoiding the complexities of sophisticated models.

Findings underscore the ambiguity and contextuality surrounding the definition of impact, acknowledging the dynamic nature of factors at play. The research aligns with existing knowledge, emphasizing the absence of a universal definition, or set criteria for foresight impact. Organizational futurists associate impact with the change they can initiate, emphasizing its indirect nature, often influencing decisions made by other parties.

Many previous studies have attempted to study the impact of foresight using various methods and indicators. Exceptionally, this research makes it possible to provide an accurate snapshot of the current practices in global organizations, especially from the perspective of foresight leaders and managers. The researcher took a leap in taking a

novel, empirical approach to the subject. The theoretical basis was extensively studied in the field of foresight and its evaluation, but the aim was to keep the framework open. This allowed for a wide-ranging exploration and collection of views and experiences from professionals in the field. At the same time, it managed to surprise the researcher with some conflicting findings.

Foresight practitioners aim to guide light to places where it is yet impossible to see clearly. The growing need for foresight expertise in business is due to more and more businesses understanding that uncertainty does not diminish by only asserting certainty. Instead, you must prepare for alternative futures, which is what foresight is for; translating emerging changes in future business landscapes so that organizations can deal with potential tensions better and make decisions leading towards preferable futures.

5.2.1 Practical implications

Based on the findings and discussion in this thesis, several practical implications can be drawn for foresight leaders and professionals in global firms. The implications are aimed at enhancing the understanding and the practice of strategic foresight, particularly concerning measuring its impact and implementation of effective practices within global firms. The researcher wants to highlight following five suggestions:

- 1) **Impact of strategic foresight is always context dependent.** Organizational futurists primarily associate impact with the change they can initiate or create within the organization. The context of every decision is different and therefore, so is the potential impact. Impact of foresight is seen not only in decisions made but also in the ideas and ideologies that foresight work provokes.
- 2) **Organizational location directs foresight impact.** In a global context, organizational matters play a significant role in what is expected from the work. There are plenty of alternatives, but being part of the strategy unit was seen as the most prominent for having an impact. Yet, practitioners should make sure not to drift too far from daily operations.
- 3) **There's no impact without stakeholders and collaboration.** Understanding that the impact of foresight units is created through decisions made by stakeholders underscores the necessity of prioritizing stakeholder engagement. In this context, the researcher advocates for foresight practitioners to put emphasis on

engagement, effective communication and to actively assess how their work and its outcomes are implemented within the organization in the most impactful way.

- 4) **Simple metrics over sophisticated frameworks.** The metrics in use vary a lot as they should, considering the diverse goals across different organizations. There is a tendency to favour simple metrics over comprehensive frameworks. This can, among other factors such as resources, be attributed to the inherent tension between the long-term focus of foresight work and the prevailing short-term assessment cycles within organizations. The study suggests that need for systematic longer-term assessment within the current organizational systems does not exist. Researcher suggest that the motivation to surpass the current business norms should be considered.
- 5) **No structures for measuring \neq Weak foresight culture.** Lastly, researcher want to highlight that the absence of formal structures for measuring strategic foresight should not be equated with a weak foresight culture within an organization. It's important to recognize that the level of sophistication of metrics employed does not reflect the potential impact of strategic foresight activities within an organization.

5.2.2 Validity of the research

The validity of the research is pre-evaluated in an earlier chapter (see 3.6 Limitations and integrity of the research). Ensuring validity of a study means that data collection methods accurately express what they are intended to, and the findings are an accurate representation of the subject (Saunders et al., 2007). A post-evaluation below consists of a reflection on interviewees and the language choices.

The interviewees selected for the study represent foresight leaders and managers in global companies, a group that is not vast in size. The profession is not large in number and therefore a great deal of work was required to find interviewees. Happily, many of them agreed to participate. The fact that foresight leaders and managers took the time to participate is evidence for the researcher that digging the subject deeper is welcomed also by the practitioners. The researcher is very satisfied with the number of interviewees, as well as the quality of the material gathered during the process. Bringing both the academy and consultancy representatives into the study enriched the findings and was thus

justified. However, in terms of the focus of the study, it brought differences in perspective that had to be considered as part of the study.

Researcher would like to have further discussion within the field of foresight related to the language used within a field that does not yet have established practices and terminology. In the context of this study, the conscious decision to use "strategic foresight" over alternatives like "corporate foresight" is presented, along with the deliberate use of "measure" and "assessment" instead of "evaluation" and "impact" instead of a more general reference to the value of strategic foresight. The researcher welcomes open discussion on these choices, acknowledging constructive criticism from both peers and interviewees. The study recognizes the importance of language in shaping research attractiveness, especially in a business context where "measurement" may resonate better than "evaluation".

While acknowledging the importance of critically evaluating terms in science, the primary goal is to support organizations in enhancing the impact of foresight work. The researcher took an empirical approach to conduct a comprehensive exploration of views and experiences from professionals in the field. At this point, it is hypothetical to argue that the word "measure" would be significant, but the researcher was prepared to make this choice of wording to ensure the significance of the study to the parties to whom the work is aimed at. Additionally, these distinctions are, and should be under review and evaluation in academia. But that is not the case in organizations, where the shared language and common understanding is far more important than the precise definitions in use to describe the actions.

5.2.3 Suggestions for further research

These results raise intriguing questions for further exploration. Researcher firmly believes that the connection between research and practice is essential for improving and advancing strategic foresight practices in global firms. The effective synergy between the two requires alignment of needs, relevance of interests and practical applicability of research findings. The quality and rigor of research findings is critical for credibility and reliability of the research field. The topicality of the thesis became apparent to the researcher very quickly. The results of the study as well as the foresight practices of others interested all organizations without exception. Many interviewees themselves expressed ideas and questions that could be explored further within the field. On the other hand, it

became clear that there is still both research and work to be done on the subject. While this study provided valuable novel insights, there are still many unexplored areas for investigating impact and the assessment of strategic foresight activities in organizations. In this chapter, potential areas of further research are proposed.

This study focuses on organizational futurists' views on the topic. Interesting area for further research could be to study stakeholder expectations towards strategic foresight and how the impact of the work should be assessed. Such research could also help foresight professionals to describe their work and its purpose to other members of the organization more effectively. There seems to be a lot of varying experiences within corporations, but also assumptions. This study highlighted the need for common language and understanding on what can be achieved with the foresight work as well as the need for overcoming barriers, which of many can be psychological ones. By better understanding the gap between these two groups, we could find ways to build bridges for more impactful foresight work.

Another area of further research could be to study the decisions made in the past about changes and, above all, the decision-makers behind them that have led the organization to a radical change of direction, having a significant impact in the future of the organization. Making such decisions involves dealing with high levels of uncertainty. Understanding the futures related information, data, stakeholder engagement as well as indicators, and measures used to support decision-making could help in understanding how decision-makers come to make the decisions. Researcher personally would be interested in exploring the mental models that guide decision-making in uncertainty.

This research identified numerous known and understandable factors contributing to the limited availability of information regarding foresight activities within global organizations. However, the interviewees also shared similar experiences, challenges and practices. The dissemination of these insights among the community of foresight researchers and practitioners does not compel organizations to disclose confidential or business-critical information. The researcher aims to further explore and encourage fellow researchers to search for corresponding research topics, as the work has the potential to impact not only one but the whole industry forward.

6 References

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Appendices

Appendix 1 Interview question base

PART I Background & Setting the context

- Could you briefly explain your position in your organization and what your job entails?
| How many years of experience you have in foresight?
- Can you share your understanding of the role of strategic foresight in your organization? Has it changed over time? | What kind of role should strategic foresight have in a global organization?
- In your opinion, how should foresight be situated in an organization?

PART II Value and impact of strategic foresight

- How do you define impact in the context of strategic foresight?
- Can you discuss any challenges or limitations faced when attempting to measure the impact of strategic foresight in a global firm?
- What would you name as the greatest enablers for strategic foresight work in global organizations?

PART III Measuring the impact and performance of strategic foresight

- Are there currently any systems for measuring the foresight work done in your organization / your customer organizations? If yes, could you elaborate on those. If not, do you think there should be? Why / why not?
- What should be the object of measurement?
- Can you share any examples where the implementation of strategic foresight activities had an impact on a decision-making process, outcomes, or long-term performance? Was the impact measured? Who was responsible for creating the impact?
- How should the measurement period be determined?
- Who should be responsible for choosing metrics for strategic foresight work?
- Do you see any potential risks in setting metrics for foresight work?

PART IV Future-orientation

- Based on your expertise, is there any emerging trajectories in the assessment of strategic foresight impact and performance in the context of global firms?

- Is there any other advice or insights you would like to offer to organizations striving to measure and enhance the impact of strategic foresight in global firms?

Appendix 2 Interview invitation

Personal greeting

I'm Viivi Koivuniemi, and I'm conducting thesis research, "Measuring Strategic Foresight Impact in a Global Firm", as a part of a master's degree in Futures Studies at the Turku School of Economics in Finland. I'm now looking for experienced professionals and global leaders in the field of foresight to participate in research interviews, and I hope you will be one of them.

In addition to benchmarking the current situation of strategic foresight impact measurement in global organizations, the thesis discusses future development trajectories and needs. It also aims to shed light on the potential benefits and challenges of the measurability of strategic foresight. Finally, it examines how, by whom, and where the effectiveness of strategic foresight is created.

The interviews will be conducted remotely via Teams at a convenient time for the participant and will take approximately one hour. Please let me know if You have the possibility to participate, and we can arrange the best suitable time for the interview. As a thank you for your participation and time, we share the interview findings with the participating organizations.

Furthermore, if you have an expert in mind who could positively contribute to the research, I am incredibly grateful for any further proposals.

If you have any questions or need more information, please don't hesitate to contact me by email. Thank you for your time and consideration in advance.

Gathered data will be anonymized in any published materials, and only the author of the thesis has access to the materials before anonymization. KONE Oyj grants the thesis. The company does not employ the author.

I wish you a wonderful week ahead and hope to hear from you soon.

Best regards, Viivi Koivuniemi

Appendix 3 Research data privacy notice

Data Privacy Notice for Research Interview Participants in "Measuring Strategic Foresight Impact in a Global Firm".

You have been invited to participate in a research study. You participate by answering the interview questions. Participation in this study is voluntary. You can discontinue your participation in the study at any time. Should you discontinue your participation, you will not be subject to any negative consequences, but information gathered from you up until the point of cessation of your participation may be used in the study according to this Privacy Notice and the applicable data protection legislation.

1. Name of the register:

Measuring Strategic Foresight Impact in a Global Firm

2. Data Controller:

Futures Studies Master's degree student at the University of Turku

Viivi Koivuniemi email: [disclosed] phone: [disclosed]

3. Purpose and legal basis for the processing of personal data:

The research collects experts' views on following research topic: "Measuring Strategic Foresight Impact in a Global Firm" and aims to benchmark the current practices in organizations.

The legal basis for processing personal data in the Article 6 of the EU General Data Protection Regulation is: Data subject has given their consent to processing personal data (consent, Point 1a of the Article 6). Processing is necessary for scientific research (public interest, Point 1e of the Article 6).

4. Processed personal data:

The following information of the data subjects is processed by the data controller: name and email address of the interviewee, recorded voice data in the form of the recorded interview, profession, and length of interviewees experience.

5. Recipients and recipient groups of personal data:

Personal data will not be transferred or disclosed to parties outside the research group. Only anonymized data [no longer personal data] will be stored for possible further research use. Research data and findings can be used for academic purposes.

6. Information on transferring data to third countries:

No personal data will be disclosed to parties outside the EU/EEA.

7. Retention period of personal data or criteria for its determination:

The recorded interviews will be transcribed into text files and solely anonymized data will remain for possible further research use. The recordings will be stored for a maximum of two years and are only accessed by the Data Controller.

Rights of the data subject:

The rights of the study participant in a scientific study According to the General Data Protection Regulation (GDPR), data subjects have the right:

- to obtain information on the processing of their personal data
- of access to their data
- to request rectification of their data
- to request restrict the processing of their data
- to object to the processing of their data
- right to erasure

If research data have been unlawfully processed and processing is no longer necessary for archiving purposes in the public interest, scientific research purposes or statistical purposes and erasure of research data will not render impossible or seriously impair objectives of scientific research.

9. Information on the existence of automatic decision-making, including profiling:

The data will not be used for automatic decision-making or profiling.

10. More information on the study and the exercising of your rights:

The contact person in matters related to the research study is Viivi Koivuniemi.

If the research participant sees that their data has been processed in violation of the General Data Protection Regulation or data protection legislation, the participant has the right to lodge a complaint with the supervisory authority, the Data Protection Ombudsman (see more: tietosuoja.fi).

Appendix 4 Translated interview extracts

Please note that the author of this thesis has translated excerpts from the interviews held in Finnish into English. Incorrect translations and misinterpretations are the sole responsibility of the author. Translations are in chronological order for each interviewee. Every translated extract is followed by the corresponding original Finnish version.

Interviewee 1

Future-proofing our company and creating resilience towards futures. It can mean, for example, identifying new business opportunities that is not tied to any current capabilities, supporting the growth of emerging business functions that have already been identified and established, mitigating risks, or work aimed at helping successful, mature, business areas maintain their positions and perhaps make smaller, more moderate changes of direction to maintain their own position. [Interviewee 1]

Future proofing *Company 1*. Tulevaisuuskestävyyden kautta resilienssiä ja sen luomista *Company 1*elle. Sitten se vähän vaihtelee, meillä on paljon ikään kuin uusien liiketoimintamahdollisuuksien tunnistamista sellaisella ajatuksella, että se ei ole sidoksissa mihinkään meidän nykytekemiseemme tai *Company 1* nykykyvykkyyksiin. Sen lisäksi meillä on sellaista nousevien jo tunnistettujen ja perustettujen liiketoimintafunktioiden kasvun tukemista eli koitetaan auttaa niitä navigoimaan optimaaliseen suuntaan. Ja meidän konsernin strategiayksikön pääasiassa tekemään ennakointityö missä me ollaan jossain määrin mukana myöskin, niin sen mä sanoisin olevan ehkä enemmän riskien mitigointia ja tavallaan sellaista työtä, minkä tavoitteena on auttaa meidän hyvin menestyviä, kypsiä, liiketoimintaluoteita ylläpitämään sitä omaa positiotaan ja ehkä tekemään pienempiä maltillisempia suunnanmuutoksia sen oman position ylläpitämiseksi.

In our case, we are capable of generating inputs for sustainability and marketing teams from innovation function, but the strategy function is perhaps its own fortress then. If you don't have a foot in between that door, then maybe it is a little harder to give insights. If you want to do strategic foresight at the group level, then it has to live within that [strategy] function as far as I can see. [Interviewee 1]

Meidän tapauksessa ihan hyvin pystytään tuottamaan inputtia sustainability ja marketing tiimille innovaatiotoiminnasta käsin, mutta strategiefunktio on ehkä se oma linnakkeensa. Jos ei sulla ole jalkaa sen oven välissä, niin sinne on ehkä vähän vaikeampi antaa sitä näkemystä. Jos halutaan tehdä strategista ennakointia konsernitasolla niin sitten se tavallaan pitää asua sen funktion sisällä mun nähdäkseni.

The built-in valuation level perhaps more favors strategy functions [over foresight functions]. -- In many cases, the people who work in the strategy function have similar thought patterns, tools, and ways of working, with those who have progressed to the top management of the organization. That educational background and path even in life more broadly, but also within the company is similar in a sense that they already speak the same language. [Interviewee 1]

Se sisäänrakennettu arvostustaso ehkä kumminkin enemmän suosii strategiefunktioita, kun se on -- no siinä on tietty positio niin jotenkin tämäkin vaikuttaa tavallaan siihen, että kenen työhön ollaan valmiita antamaan aikaa ja kenen työtä ollaan valmiit uskomaan enemmän. Monesti tavallaan ne ihmiset jotka on siellä strategiefunktiossa, jolla on samanlaisia ajatusmalleja, työkaluja, toimintatapoja, kun niillä jotka on sitten edennyt sinne organisaation ylimpään johtoon. Se niitten koulutustausta ja polku tavallaan ehkä elämässä laajemminkin, mutta myöskin yrityksen sisällä on samankaltainen, että ne puhuu lähtökohtaisesti jo samaa kieltä.

Foresight requires champions and those who are willing to support it in the organization. But what it means on different organizations depends on the people who experience it as their own. [Interviewee 1]

Ennakointi vaatii niitä championeita ja niitä jotka on valmiit liputtamaan sen puolesta organisaatiossa. Mutta se mitä se missäkin on, niin se varmaan riippuu ihan henkilöistä. Henkilösidonnaista sitten että ketkä kokee sen omakseen.

The nature of knowledge is always hypothetical and subjective when talking about the future. It is often difficult to make decisions based on it. There can be conflicts in the interpretation of information about the future and it can be difficult to seek that consensus. [Interviewee 1]

Tiedon luonnehan on aina hypoteettista ja subjektiivista kun puhutaan tulevaisuudesta. Sen pohjalta on vaikeata tehdä päätöksiä monesti ja tavallaan se keskusteluttaa ja siinä voi olla konflikteja tavallaan tulevaisuutta koskevan tiedon tulkinnassa ja se voi olla vaikeata hakea sitä konsensusta.

I have seen it realized that there has been a lack of understanding of what foresight work fundamentally is. What are the aims and what is possible? Then KPIs are set that just don't fit the reality of doing it. And it is really bad for everyone involved. There will be disappointments in the people setting the KPIs and in those who do the work. [Interviewee 1]

Oon nähnytkin sen realisoituvan että ei ole ymmärretty mitä ennakointityö on fundamentaalisesti. Mitä siinä tavoitellaan ja mikä on mahdollista? Sitten on asetettu sellaisia KPI:t, mitkä ei vaan matchaa sen tekemisen todellisuuden kanssa. Niitä on näkynyt. Ja se on kyllä tosi paha kaikille osapuolille, että tulee pettymyksiä KPI asettajissa ja sitten tulee pettymyksiä niin niissä että ketkä tekee sitä työtä.

We have KPIs for identifying new business opportunities. -- It's a 5-step model and we always get one KPI point from when we identify an idea and then according to how many steps it moves forward. Each step has a so-called cut-off phase, if it is not possible to build the business case further. This ensures, first of all, that we evaluate a sufficient number of business ideas and then also take them forward as there is background argumentation for them. If we find really good business cases, that's a good thing. But then again, it's also a good outcome for us if we identify new things and decide OK that this isn't our thing. We also get points for not wanting, in a way, to force bad ideas forward. [Interviewee 1]

Yksi on uusien liiketoimintamahdollisuuksien tunnistaminen, siihen liittyen meillä oli ihan KPI:t. -- Se on 5 portainen malli ja me saadaan aina yksi KPI piste siitä, kun me tunnistetaan joku idea ja sitten sen mukaan että kuinka monta steppiä se pääsee eteenpäin. Ja aina tavallaan jokaisessa portaikossa on niin sanottu cutoff-vaihe, että jos ei pysty vakuuttamaan tai rakentamaan sitä bisneskeissii pidemmälle. Eli sitten se jätetään pois ja sitten saat pisteitä sen verran kun se on mennyt rappusia alas. Tämän avulla me koitetaan ohjata sitä, että ensinnäkin me evaluoidaan riittävä määrä liiketoimintaideoita ja sitten myöskin viedään niitä eteenpäin sen mukaan, kun niille löytyy sitten tausta-argumentaatiota. Jos me löydetään tosi hyvin business caseja jotka menee pitkälle, hyvä niin. Mutta sitten taas toisaalta sekin on meille ihan hyvä lopputulos tavallaan tunnistetaan uusia asioita ja päätetään, että OK ei tämä ole meidän juttu, me saadaan yhtä lailla pisteitä siitä. Me ei tavallaan halua pakottaa huonoja ideoita eteenpäin.

We've had dissemination goals for larger studies, aiming to reach both internal and external audiences for the work. It's more of this kind of more traditional communication related KPI metrics that have been used there, and maybe that's where the function has been more about creating that kind of thought leadership and sharing these kinds of personal insights. [Interviewee 1]

*Company 1*llä on ensin tehty vähän isompia selvityksiä. Ja sitten niissä on ollut disseminaatio-tavoitteita että saadaan sisäistä yleisöä niille ja saadaan myöskin ulkoista yleisöä niille ja se on sitten ehkä enemmän tällaista perinteisempää viestintään liittyvää KPI mittaristoa mitä siellä on sitten käytetty ja ehkä siellä se funktio on enemmän ollut sellaisen ajatusjohtajuuden luominen ja tällaisten omien näkemysten jakamista.

When supporting our identified businesses, we use a customer satisfaction survey in which our internal stakeholders evaluate the quality of foresight work to see if it has been good. And, whether it has provided answers to the questions that were hoped for. [Interviewee 1]

-- me koitetaan myös tukea noita meidän tunnistettuja liiketoimintalähtöjä ja niissä se on ihan kyllä ehkä jopa asiakastytyväisyyskysely pohjasta tavallaan, että meidän stakeholderit arvioi sitten se ennakointityön sitten että onko se ollut hyvää. Ja, onko se tuottanut vastauksia niihin kysymyksiin.

Interviewee 2

I think in a big global organization, there's not one place where it should be. But the function of what foresight is, what its motive is, why it is done and to whom it is done determines where in the organization it is. Who utilizes it and what its goal is, and in an organization of [company 2] size, foresight has many goals, serves many different purposes and many different roles. That way, it is located in very different places in the organization and its also done in parallel. [Interviewee 2]

Mun mielestä isossa globaalissa organisaatiossa ei ole yhtä paikkaa jossa sen pitäisi olla. Mutta sen funktio, millaista se ennakointi on, mikä sen motiivi on ja kenelle sitä tehdään niin se määrää sen missä se organisaatiossa on, kuka on sen hyödyntäjä ja mikä sen tavoite on. Ja *Company 2*n kokoisessa organisaatiossa ennakoinnilla on monta tavoitetta, se palvelee monia eri tarkoituksia ja monia eri rooleja organisaatiossa. Sitä kautta se sijaitsee hyvin eri paikoissa organisaatiota ja sitä tehdään rinnakkaisesti.

That's probably the most challenging part, how well I can communicate and how credibly I can cause situations where our business management decides to implement those ideas. What I've been able to produce for them and what kind of decisions are made based on them is probably the impact for us. Regardless of the outcome, whether we look 3, 5 or 15 years ahead, my actions have caused organizational change. [Interviewee 2]

Se on ehkä se haastavin, että kuinka hyvin pystyn kommunikoimaan ja kuinka uskottavasti pystyn aiheuttamaan sellaisia tilanteita, jossa liiketoimintajohto päättää ottaa niitä ajatuksia käyttöön. Mitä minä olen pystynyt tuottamaan ja tekemään niiden pohjalta päätöksiä se kai sitten on sitä vaikuttavuutta meille. Oikeastaan riippumatta siitä lopputuloksesta, katsotaan me sitten 3, 5 tai 15 vuotta eteenpäin se, että minun toiminta on aiheuttanut organisaatiomuutosta.

If we have done our job well and it has been communicated in such a way that it can be utilized, then if that information is not utilized, there is a certain limit, after which we can no longer influence it. If the decision-maker decides not to act on that information, then that, in a way, is also a decision. [Interviewee 2]

Jos me ollaan tehty työmme hyvin ja se on kommunikoitu niin että se olisi hyödynnettävissä niin jos ei sitä hyödynnetä niin on tietty raja, minkä jälkeen me ei voida enää vaikuttaa siihen. Jos päätöksentekijä päättää, että hän ei hyödynnä niin sekin on tavallaan päätös sitten.

In principle, it could be OK that if you have a clear focus on operations, then there could be a really clear KPI that informs how the organization performs year after year? So, I think it could be justified. If I'm wondering if we could find one, I guess we could. [Interviewee 2]

Ja voisi periaatteessa olla niin kun OK että jos sulla on joku selkeä toiminnan fokus sitten sieltä löytyy joku tosi selkeä KPI joka informoi että miten se organisaatio performoi vuodesta toiseen? Eli mun mielestä se varmaan on ihan perusteltua. Jos mä mietin meidän toimintaa, että olisiko siihen löydettävissä sellainen niin varmaan.

Absolute quantification to the fact that, hey, I remember back 15 years ago when you gave this advice and now, we got 80% of it. In a way, however, that does not work in this context. It doesn't work that way, even if the time span is five years, not such a retrospective. In an organization, if we go back X years and say, hey, you did a really good thing, that's not it. The impact comes so much from how well you can communicate your message. [Interviewee 2]

Absoluuttinen kvantifiointi siten, että hei muistan silloin 15 vuotta sitten kun annoit näitä neuvoja niin sanoit tätä ja nyt me päästiin kahdeksaankymmeneen pinnaa siitä. Niin toi ei tavallaan kuitenkaan tässä kontekstissa toimi. Ei se toimi niin, vaikka se aikajänne olisi viisikin vuotta niin ei se sellainen retrospektiivi organisaatiossa jos me siirrytään x vuotta taaksepäin ja sanotaan että hei, te teitte tosi hyvää juttua niin se ei ole sitä. Vaan se vaikuttavuus tulee tosi paljon sen kautta, että kuinka hyvin pystyt kommunikoimaan sitä viestiä.

Interviewee 12

It has been an extremely important experience to have been in the innovation unit and now see that organization from a different perspective. As the location of the foresight team, the strategy team is a good place to be, but it is important to have a good connection and understanding of the operations of the different units of the organizations when operating separately from that day-to-day business and product development. [Interviewee 12]

On ollut ihan äärettömän tärkeä kokemus, että on ollut siellä innovaatioyksikössä ja nyt näkee eri näkökulmasta tuon organisaation. Eli sanoisin, että ennakoititiimin sijaintina strategiatiimi varsinkin meidän uudessa strategiayksikössä on juuri oikea paikka, mutta on tärkeää, että on hyvät yhteydet ja ymmärrys organisaatioiden eri yksiköiden toiminnasta, jotta se toimii kun se on vähän irrallaan siitä päivittäistä vaikka bisneksen tai tuotekehityksen arjesta.

We have clear quantitative targets for how many deep dive projects will be done, for example. – Or that it can be shown that there is an opportunity for a certain kind of new market opportunity. Let us put it that way; we can quantitatively demonstrate that the opportunities are qualitatively such that it is really worth investing limited research and innovation resources in them. [Interviewee 12]

Meillä on selkeät määrälliset tavoitteet määritelty että kuinka monta, vaikka tällaista deep dive projektia toteutetaan. -- tai, että pystytään osoittamaan vaikka mahdollisuus tietynlaiseen uudelleen markkinaan, tai. Sanotaanko että me määrällisesti pystymme osoittamaan, että ne ovat laadullisesti sellaisia, että niihin kannattaa oikeasti sijoittaa rajallisia tutkimus ja innovaatioresursseja.

The management's support and interest in this approach, both within our own unit and in senior management, certainly makes our work easier. [Interviewee 12]

Johdon tuki sekä innovaatioyksikössä että nyt myöskin ylemmässä johdossa kiinnostus tätä lähestymistapaa kohtaan varmasti helpottaa tätä meidän työskentelyä.

Metrics can steer foresight in a direction that does not exploit its full potential. Of course, resources must be considered, but if foresight data were produced, for example, solely to support decision-making by top management. And the metrics would guide all the foresight knowledge to a certain level and audience, it would not benefit the entire organization broadly. [Interviewee 12]

Mittarit voi ohjata myöskin ennakoinnin tekemistä sellaiseen suuntaan, että siitä ei hyödynnetä sen koko potentiaalia. Tietysti resurssit täytyy ottaa huomioon, mutta tavallaan, että ennakoititietoa tuotettaisiin esimerkiksi pelkästään vaikka ylimmän johdon päätöksenteon tueksi ja olisi sellaiset mittarit jotka ohjaa että se kaikki ennakoititieto on tietylle yleisölle suunnattua, niin siitä ei saataisi koko hyötyä irti mikä siitä voisi olla laajemmin organisaatiolle.

As far as I know, more extensive foresight exercises to support strategy work have been carried out regularly for at least twenty years. The fact that this [foresight] is not completely unknown to this global organization has probably made it easier that since our operations became permanent, they have been well received. [Interviewee 12]

Ainakin mun tiedon mukaan laajempia ennakoitiharjoituksia on tehty ainakin parikymmentä vuotta säännöllisesti. Se että tää ei ole globaalille organisaatiolle aivan tuntematon asia niin on varmaan helpottanut sitä että meidän toiminta kun vakinaistatui niin se on otettu hyvin vastaan.