



MASTER THESIS

Future-proofing technical B2B firms: examining the impact of market orientation and marketing function integration on strategic foresight.

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ABSTRACT

Purpose – This research aims to examine the impact of market orientation and the marketing function on the strategic foresight of technical B2B organisations. Eventually, practitioners in the technical B2B sector can be encouraged to potentially rethink their practices in the field of market orientation and the marketing function in order to possibly enhance their strategic foresight to become stable and future-proof.

Method – This research consists of a literature review and empirical research. The literature review was performed regarding the three constructs: market orientation, marketing function, and strategic foresight. After that, a quantitative method was applied, where a survey was conducted (N = 30). To test both hypotheses, factor analyses and regression analyses were applied.

Results – The results have shown that both market orientation and the marketing function are positively related to the strategic foresight of B2B companies in the Netherlands. As the level of market orientation increases and the marketing function becomes more advanced, the level of strategic foresight increases. No moderation or mediation effects were found in this study.

Research limitations – This research has been done with 30 respondents, however, a bigger sample size including possibly international respondents would have been preferable to enhance the robustness of the findings. Furthermore, although the scales used in this research were validated, their complete utilisation was restricted due to limitations in the number of questions. Furthermore, convenience sampling was used in this research, while a random sampling technique would have been more appropriate.

Keywords – Market orientation, marketing function, strategic foresight, technical B2B organisations, B2B marketing

Paper type – Research paper

1. Introduction

Today's extremely competitive business environment has led to broad recognition of marketing as a key factor in determining a company's success (Narver and Slater, 1990; Moorman and Rust, 1999; Pulendran et al., 2003; Kotler and Armstrong, 2018). The manufacturing industry's technology is evolving rapidly, offering both challenges and opportunities for B2B enterprises. The B2B environment includes unique dynamics and challenges that differ significantly from those in B2C contexts (Ellis, 2011). For continued success and a long-term existence, it is essential to comprehend and focus on customers' needs and preferences in order to satisfy them, while strategically positioning products and services in the market (Day, 1994; Kotler and Armstrong, 2018). The implementation of the marketing concept is referred to as market orientation and is generally recognised as being of paramount importance (Kohli and Jaworski, 1990). It is empirically shown that beyond a company's market orientation, a strong marketing function results in greater business performance (Moorman and Rust, 1999). To stay relevant and successful, strategic foresight is fundamental in the ever-changing business environment. It represents a set of capabilities that provides companies with the means to navigate through environments characterised by volatility, complexity, and uncertainty (Amniattalab and Ansari, 2016; Rohrbeck, 2008). Strategic foresight can be seen as a form of future-oriented planning to prepare for and anticipate the industry's developments and uncertainties adequately (Amniattalab and Ansari, 2016). Taking a systematic approach to future analysis allows companies to foresee upcoming developments and plan their responses accordingly. (Slaughter, 1997; Amniattalab and Ansari, 2016).

1.1 Research problem and research question

Marketing, especially in the B2B sector, is dynamic and ambiguous, and is embedded in multiple complicated networks of stakeholders (Gummesson, 2014). It is often misunderstood in B2B firms that marketing is a driver of organisational profit and growth (Oliva, 2012). Even though extensive research has confirmed that an integrated marketing function is of paramount importance, there is an expectation, arising from practical experience from the Dutch industrial marketing community (STEM), that many technical manufacturing companies operating in the B2B domain do not understand the role and function of marketing. Literature supports this by stating that compared to B2C companies, B2B firms display a less market-oriented culture and behaviours (Gounaris and Avlonitis, 2001). However, a lack of knowledge and commitment regarding marketing is considered to be the most critical restraint in retaining and increasing

market shares (Brooksbank et al.,1992; Ellis, 2011). STEM acknowledges that the marketing position and marketing department are often subordinate to other departments, and therefore, marketing principles are often not well applied or even not applied at all. Nevertheless, marketing should be seamlessly integrated within the organisational policies, analogous to the departments of finance and human resources, for example (Kohli and Jaworski, 1990). To anticipate the future, companies need the ability to navigate through future circumstances and uncertainties (Amniattalab and Ansari, 2016; Rohrbeck, 2008). This research focusses on whether marketing plays a pivotal role in determining the future sustainability of a technical B2B manufacturing company. Specifically, this research examines whether B2B firms enhance the development of their strategic foresight through the effective integration of both market orientation and the marketing function. Whereas firm profit performance was the key focus of marketing literature, this research conceives strategic foresight as the most important dependent variable. This is because market turbulence and digitalisation are all-present in today's business markets. Therefore, based on the research problem described, this research explores how B2B manufacturing companies' marketing orientation and function are embedded, and what effect this has on their strategic foresight. The primary research issue is examined to arrive at the final conclusions and recommendations. The central research question is formulated as follows: *How do market orientation and the integration of the marketing function impact the strategic foresight capabilities of manufacturing B2B firms?*

Moreover, this research question is broken down into several sub-questions, as listed below:

- *What are the key dimensions of market orientation?*
- *What comprises the marketing function within a manufacturing B2B firm?*
- *What is strategic foresight and why is strategic foresight considered crucial for long-term success?*

1.2 Introduction of the methodology

A quantitative research method is conducted in the form of a survey with validated scales, to examine the relationship between the variables market orientation, marketing function and strategic foresight. The 30 respondents were managers, professionals, and employees working in several B2B manufacturing businesses. The survey concentrates on examining the function of marketing within the firms, how market-oriented these firms are and what their level of strategic foresight is. Factor analyses and regression analyses were performed for the results.

1.3 Academic and practical relevance

The existing literature regarding the three concepts in this research, namely market orientation, marketing function, and strategic foresight, is rather fragmented. Because market orientation and the marketing function are mainly researched with the current aspects or medium-term aspects of a company's performance (e.g. Moorman and Rust, 1999; Kohli and Jaworski, 1990), it is interesting to delve deeper by investigating its influence on the level of strategic foresight. This adds a further dimension, as strategic foresight is focussed on creating a sustainable position in the future. There is a scarcity of research that is connecting these three elements explicitly. Market orientation and the marketing function have been researched, but limited attention is given to these concepts in the B2B context (Chang, 2014). Although this is important, given the current lack of implementation of marketing in the B2B domain (Gounaris and Avlonitis, 2001). B2B marketing is characterised by complexity (Ellis, 2011). Academic research can help to understand and uncover this complexity, and provide insights into several aspects of the B2B world. Hence, this research provides a novel theoretical contribution by combining and interpreting the relationships between market orientation, marketing function and strategic foresight in a B2B context, bridging the gap in the literature that often discusses these variables separately or focusses on B2C.

The practical aim of this study is that it will contribute to improving the marketing and strategic foresight practices of practitioners in the technical B2B sector and members of STEM. STEM is based in Voorburg, the Netherlands, founded in 1987 by Willem de Vries. Their core business is to help technical B2B companies improve their market orientation and value proposition. STEM's mission is to offer perspective to the companies' market position and growth. The business offers services related to research, training and development, and support in the manufacturing industry, construction sector, and installation sector. Based on research, STEM helps companies upgrade their knowledge about marketing and innovation, to reach sustainable value creation and therefore reach the optimum for its clients. In addition, practical experiences can be shared during inspiration courses and masterclasses, stimulating new business opportunities and network building. The findings could provide valuable guidance for practitioners in the B2B domain. It may signal importance to companies about the necessity of improving their market orientation and their marketing function, in order to anticipate future challenges and opportunities. After all, the Dutch industrial marketing community STEM has noticed that in practice, technical manufacturing B2B companies in the Netherlands may consider marketing to be of lesser significance. This research addresses the current situation around how firms in the specific setting of the technical B2B manufacturing field implement

marketing. Furthermore, these insights provide a valuable research foundation for B2B companies to strengthen their strategic position, and for consultants to enhance and validate their services, as consultants could serve as a bridge between academic research and practical implementation (Gummesson, 2014).

1.4 Outline of the thesis

This thesis is structured as follows. The next chapter consists of a literature review, starting with academic challenges regarding B2B marketing. Furthermore, the literature review aims to provide a holistic view of the three constructs in this thesis: market orientation, the function of marketing, and strategic foresight. This chapter ends with a theoretical framework including the conceptual model and the hypotheses. This is followed by chapter 3, which describes the methodology. In chapter 4, the results of this study are revealed. The thesis concludes with a discussion and conclusion, based on the insights of the results of the survey.

2. Literature Review

This chapter analyses the current scientific knowledge regarding the research subject and forms a research framework. Multiple academic databases, including Scopus, Web of Science, and Google Scholar, were used to find and unravel relevant literature. First, some academic challenges regarding B2B marketing research are identified to provide context, transparency, and clarification of the research frameworks. After that, the role and function of marketing in manufacturing companies will be discussed. This starts with an analysis regarding the market orientation of a firm, followed by the marketing function beyond the variance explained by a company's market orientation. Following, the dependent variable in this research is explained: strategic foresight. This chapter ends with a theoretical framework, where the conceptual model is defined.

2.1 Academic challenges regarding B2B marketing research

Nowadays, the term business-to-business (B2B) marketing is used by business scholars everywhere. But before this term, the term 'industrial marketing' was used (Ellis, 2011; Grewal et al., 2012). Not only the term has changed over the past several decades, but also the concept of B2B marketing has evolved to a broader sense. Where it used to be only about transactions of products that other companies used to make new products (i.e. office supplies or raw

materials), it is now primarily about building a reciprocal value-generating relationship (including products and services) with other organisations (Baines, et al., 2009; Ellis, 2011; Grewal et al., 2012). When it comes to marketing research, B2B marketing is yet an underrepresented area in the literature (Grewal et al., 2012). Grewal et al. (2012) identified a couple of hurdles that may explain this, namely complexity and heterogeneity, lack of domain knowledge, data challenges, and diffuse focus.

Complexity and heterogeneity. B2B environments encounter lengthy, complex purchasing processes with several decision-makers involved (Oliva, 2012). Making any purchase decision in the B2B world normally involves more than one individual. When a purchase is made in a B2C context, this is rarely the case. But in a B2B context, individuals are involved with different backgrounds and may benefit from the purchase in another way. It can run into dozens of individuals involved in the buying process (Grewal et al., 2012). In addition, the B2B sector has a smaller customer base compared to the B2C sector. B2C companies often encounter many diverse customers. Consequently, finding common patterns in order to segment their market becomes a comparatively easier task. For B2B companies, on the other hand, the process of segmentation is a bigger challenge due to their small amount of customers (Oliva, 2012). In combination with the aforementioned heterogeneity of individuals in the buying process, identifying shared patterns and trends becomes even more difficult (Grewal et al., 2012).

Lack of domain knowledge. Doing research in the domain of B2B marketing requires specific knowledge, especially in B2B manufacturing industries. A technical background or work experience in the field is extremely helpful when conducting research in the B2B domain, but that is a capability not everyone possesses. Therefore, Grewal et al. (2012) encourage students to visit B2B companies and take action, to broaden their specific B2B knowledge.

Data collection challenges. Collecting a sufficient amount over time of data across firms and business units within firms, and over time is quite a challenge. Most of the studies either use large-scale surveys, multiple secondary data sources, or field research. These methods are time-consuming, however, using these methods often results in more impactful and meaningful research outcomes.

Interdisciplinary nature. When researching the B2B field, it has its origins in multiple disciplines like economics, psychology, and sociology. It encounters diverse challenges and builds on a variety of research foundations. Hence, the last hurdle is called 'diffuse focus'. It would be valuable if researchers investigate phenomena in the B2B marketing industry from various perspectives, to create a comprehensive and complete overview (Grewal et al., 2012).

These hurdles emphasise the interdisciplinary nature of B2B marketing research. In our everyday experiences, we rarely encounter B2B marketing situations, resulting in limited awareness of the hurdles involved (Gummesson, 2014). Even though the domain of B2B is ten times larger in activities than B2C (Ellis, 2011). Hence, this passage provides background information and context to better understand the relationships later on with market orientation, the marketing function, and strategic foresight. It furthermore can serve as a reference point for understanding the broader implications of this research.

2.2 Market orientation

After contextualising the B2B setting and serving a reference point for the implications, the constructs of this research will be discussed. According to Moorman and Rust (1999), marketing can be characterised as the function that manages the connections between the organisation and its customers. Over the past decades, the concept of marketing has been defined in various ways by several authors. However, an element of marketing that is undeniably important is recognised as market orientation (Brooksbank et al., 1992; Kohli and Jaworski, 1990). Market orientation applies equally to all organisations irrespective of their size, scale, or sector (Liao et al., 2011). Kohli and Jaworski (1990, p. 6) define market orientation as follows: ‘the organisation-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments, and organisation-wide responsiveness to it.’ Findings in Brooksbank et al. (1992) show that firms that are market-oriented are the most successful, especially in the long-term, to a significant degree. Kohli and Jaworski (1990) provide a foundation for future research in the domain of market orientation. As also reflected in the definition of market orientation, they underline three underlying fundamental concepts of market orientation, including (1) market intelligence, (2) dissemination, and (3) responsiveness (Kohli and Jaworski, 1990). The process of decision-making should be centred around the customers’ needs and desires in order to deliver maximum customer value (Kohli and Jaworski, 1990). However, decisions should be taken based on not solely customer opinions, but also market intelligence has to be a significant part of this process (Kohli and Jaworski, 1990; Huan et al., 2008).

Starting with the first fundamental concept as an aspect of market orientation, market intelligence refers to a constant organisational process aimed at generating knowledge for strategic marketing planning, gathering data from a value-aggregate chain and verifying, analysing, and communicating the final outcomes in a standardised manner (Jamil, 2015). With a market intelligence system, the changing behaviour of customers and competitors, as well as

general business/economic trends are aimed to be monitored (Huan et al., 2008). Beyond the current customer needs, market intelligence includes future customer needs and external market factors like competition or developments that affect these wants and needs (Kohli and Jaworski, 1990). Kohli and Jaworski (1990) emphasise that not only the marketing department is responsible for intelligence generation and the extent to which the company is market-oriented. Rather, market orientation must run throughout the organisation and both individuals and departments within the firm should collectively capture market intelligence (see also Webster, 1988; Slater and Narver, 1994). Market intelligence could be generated by, for example, customer surveys, customer feedback, and through other formal as well as informal ways, such as external meetings, discussions with trading partners, customer database analysis, and comparable information collection applications (Kohli and Jaworski, 1990). Since market intelligence is an organisation-wide responsibility, it should be disseminated across departments within the firm. Dissemination represents the second aspect of market orientation. This could be done through internal meetings, interdepartmental conversations, but also ‘hall talk’ and similar informal interactions (Kohli and Jaworski, 1990). The third aspect of market orientation is the responsiveness to market intelligence. Market intelligence can be generated and disseminated, however, without a response to the market needs, not much is achieved. In a market-oriented firm, almost all departments, not exclusively marketing, are involved in reacting to the market trends (Kohli and Jaworski, 1990). Responsiveness is about discussing market developments and making plans on how to implement the new information while ensuring various departments are involved (Kohli and Jaworski, 1990). It is thus critical for organisations to have a variety of departments that are aware of the firm’s market intelligence and that are responsive to it. Narver and Slater (1990) concluded that a strong market orientation strongly and positively correlates with profitability since their data show that companies with the strongest market orientation have significant influence in their markets, which is reflected in the ability to raise the entry barriers for instance, or successful customer retention. Deshpandé and Farley (1998) conducted quantitative research based on the foundations laid by Kohli and Jaworski (1990) and Narver and Slater (1990), and several other empirical studies have similar results regarding the positive effect of market orientation on firm performance (e.g. Moorman, 1995). The constant exchange of information between a company and its customers enables the company to respond quickly to market developments. Highly market-oriented companies place a strong emphasis on continuously gathering data about their customers and competitors along with utilising this information to provide superior customer value (Slater and Narver, 1995).

2.2.1 Empowering market orientation with marketing capabilities

Market orientation and marketing capabilities complement each other and can result in improved business performance (Morgan et al., 2012). Marketing capabilities in B2B contexts are increasingly gaining international attention from business scholars and managers (Cortez and Hidalgo, 2022). Effective marketing capabilities are associated with better performance in the product market and financial outcomes (Voorhies and Morgan, 2005), and distinctive capabilities serve as a source of competitive advantage (Day, 1994). Inspired by Day (1994), and Voorhies and Morgan (2005), Morgan et al. (2012, p. 96) define marketing capabilities as ‘mechanisms by which organisations define, develop and deliver value to their customers by combining, transforming and deploying their resources in ways that meet market needs’. In this research, marketing capability is considered as an overarching term, in which capabilities such as customer relation management capability and analytical capability, are considered as dimensions of this higher-order marketing capability. Improving an organisation’s marketing capabilities has the power to elevate business performance (Morgan et al., 2012).

2.2.2 Term choice

In previous research publications, the term ‘marketing orientation’ has been adopted (e.g. Doyle and Hooley, 1992; Panayides, 2004). However, the term ‘market orientation’ appears to be the preferred choice. Shapiro (1988) rightly notes that the last term makes clear that this is a common thread running through the organisation as a whole, including several departments. While with the first term, it could be interpreted more easily that the construct is exclusively a marketing department concern. Moreover, by using the term ‘market orientation’, it becomes less likely to make a connection with solely the marketing department, but rather with the business itself, it is easier to understand that not only the marketing department is responsible for the degree of market orientation in the company. Therefore, other departments within the firm are probably more inclined to accept the construct and actually view it as part of their responsibility (Kohli and Jaworski, 1990).

2.3 Marketing function

Up to this point in the literature review, it has been made clear that market orientation is indispensable and an organisation-wide responsibility (Kohli and Jaworski, 1990). This raises questions about still having a marketing department and the role of the marketing function beyond the contribution of the entire company’s market orientation. Moorman and Rust (1999) argue that despite the fact that a firm’s cross-functional market orientation is undeniably

important, the marketing function retains its job to fulfil a significant task in the business. Moorman and Rust (1999, p. 180) explain that ‘the marketing function can and should coexist with a market orientation and that the effectiveness of a market orientation depends on the presence of strong function that includes marketing.’ This implies that there is a mutually constitutive relationship between market orientation and the marketing function. Several key elements and areas within the company should be connected to the customer, facilitated by the marketing function (Moorman and Rust, 1999; Day, 1994). Moorman and Rust (1999) name three types of customer connections, namely the customer’s connection to (1) the product, (2) service delivery, and (3) financial accountability. Therefore, several organisational processes are linked to the customer by the marketing function at once (Day, 1994). The first type of customer connection involves connecting the potential customer with the company's central offering, namely, the product, meaning the goods or services. Here, the 4 P’s are involved: product, price, promotion, and place. By taking information gathered from customers about their needs and preferences as a starting point, and then shifting to engineering specifications, the customer has the lead, rather than the technology (Von Hippel, 1986). Even entrances to new product activities can be opened (Von Hippel, 1986; Aydin, 2021). The second type refers to the delivery of services to the customer, before or after making a purchase (Moorman and Rust, 1999). Additional service beyond the product itself has become an increasingly applied and important practice in manufacturing companies (Baines and Shi, 2015). The term ‘servitisation’, which arose during the 1980s and 90s in marketing studies, has now been integrated into the marketing literature and accepted by business scholars. It is recognised as the practice of generating value through incorporating services into products (Baines et al., 2009). There is a tendency in manufacturing companies to transition further away from merely selling products and toward adding advanced services, which can be created through their products. The original manufacturing expertise and resources give the ability to continuously develop advanced services (Baines and Shi, 2015). This external approach focusses on customers’ overall satisfaction, beyond the product itself. Whether customers are satisfied and how they consider the customer value, affects the financial outcomes and therefore the profitability of the firm (Fornell, 1992; Huang and Trusov, 2020). Yet, it is noteworthy to remember that generating performance value from customer satisfaction is a time-consuming process, and therefore the intangible asset of customer satisfaction holds a long-term focus (Fornell et al., 2006; Jacobson and Mizik, 2009). Financial accountability refers to how the company’s activities affect its profitability; it links the customer to financial outcomes (Moorman and Rust 1999). The marketing function is crucial to establish a strong connection

between the customer and the financial accountability, however, in many companies, the marketing function does not manage this connection well, which leads to the financial accountability being largely perceived in terms of costs (Moorman and Rust 1999). Moorman and Rust's (1999) study shows that the effect of the marketing function on business performance becomes stronger as the knowledge and skillset regarding the aforementioned three customer connections increase. Huan et al. (2008) identified a significant relationship between successful business performance and marketing practices including market research, situation analysis, establishing long-term profit goals while being sufficiently future-focused, competition based on quality products instead of price, and applying a system for gathering marketing intelligence. In line with this, Moorman and Rust (1999) found that a strong marketing department has a positive and direct effect on firm performance, because it provides value beyond the market orientation level of the company. In particular, they demonstrated that the marketing function significantly contributes to the perceived performance related to new products, customer relationships and financial areas, over and above the market orientation contribution of the firm. O'Sullivan and Abela (2007), a more recent study, support the findings of Moorman and Rust (1999).

2.3.1 Marketing power dynamics

A firm's market orientation is driven by the influence of the marketing department (Verhoef and Leeflang, 2009). However, several studies reported that marketing departments believe that their power in the firm is decreasing with time (Webster et al., 2005; Verhoef and Leeflang, 2009). On the other hand, other literature found the opposite: an increase in the marketing department's influence within firms (Feng et al., 2015; Lamberti and Noci, 2005). Hence, it could be stated that the literature contradicts regarding the change in the amount of marketing department power over time. Nevertheless, regardless for it to be increased or decreased, the power of the marketing department remains a meaningful building block for businesses. The power of the marketing department could be seen as the degree of the marketing department's ability to influence other departments and individuals within the company, including the involvement related to several decision-making processes (Feng et al., 2015). The degree of power of the marketing department has a substantial impact on predicting the performance of a company and serves as a reliable indicator of short-term profitability and directly correlates with shareholder value in the long term (Feng et al., 2015). The results of Homburg et al. (2015) show that an influential marketing department makes the greatest contribution to firm performance. The most important drivers of its influence are its innovativeness, and

accountability (Verhoef and Leeflang, 2009). Even though many organisations do have a marketing department, they often lack the presence of a Chief Customer Officer (CCO). Although Bingham (2009) addresses that having a CCO is a powerful force for organisations. A CCO is responsible for generating lucrative customer behaviour and fostering a culture centred around customers' needs and preferences, and should lead a clear and concise customer strategy to stay ahead in the highly competitive landscape (Bingham, 2009). With a CCO in the management team, it can be ensured that a company not solely survives but even excels in the competitive journey ahead.

2.4 Strategic foresight

One perspective suggests that the CCO serves as a complement to the CEO's strategic management responsibilities (Drew and Smith, 1998). Given the CEO's imperative to sustain the business in current circumstances, but also in future ones, the following section focusses on strategic foresight. In current business landscapes, complexity and uncertainty have increased (Amniattalab and Ansari, 2016). Due to rapid emerging technologies, shifts in social and cultural areas, alternative business models, and changes in the political and legal landscape, the business environment faces a lot of challenges and opportunities (Rohrbeck, 2008). Strategic foresight, also known as futures studies, is a critical factor for long-term survival. By integrating strategic foresight into business operations, companies adopt an approach that goes beyond immediate challenges. It enables companies to forecast and analyse potential future conditions and create potential future scenarios that can eventually advance decision-making (Heger and Rohrbeck, 2007). This is made possible through the use of data from the past, present and newly acquired information that is assessed and interpreted (Rohrbeck, 2008). With this data, an advanced forward view can be created and must be maintained (Slaughter, 1997). Insights can be used to, for example, develop strategy, detect trends early, and explore new markets, services and products, meaning that strategic foresight is a part of the organisational policy and day-to-day practices (Slaughter, 1997). Moreover, developing a systematic vision is an integral aspect of strategic foresight, serving as a compass for long-term decision-making. Methods such as balanced scorecards and road mapping can be applied (Amniattalab and Ansari, 2016). Amniattalab and Ansari (2016) found a positive effect of strategic foresight on competitive advantage. Due to earlier identification of external developments and shifts, temporary competitive advantage can be gained, eventually leading to increased competitiveness of a company in general (Amniattalab and Ansari, 2016). Companies do not have to wait for their competitors to propose new ideas, or for the market demand to unfold, which creates many

unique and unconventional opportunities. Also, challenges can be handled with less impulsiveness, as scenarios and the corresponding actions have been well-considered in advance (Slaughter, 1997). Thus, incorporating strategic foresight into organisational processes is essential to ensure sustained success in the ever-changing business environment.

2.4.1 Challenges

Ratcliffe (2006) identifies a couple of challenges that should be taken into account when it comes to strategic foresight.

A shift in organisational culture. This is necessary to transition from traditional to future-based strategic planning. It requires management attitudes, assumptions and aspirations to change. Core values need to be adjusted, from favouring ‘knowing’ to appreciating ‘not knowing’. The future, however, is unknown and uncertain and therefore the company must foster a culture where they can acknowledge that much of what awaits in the future remains unknown. To achieve the change in organisational culture, implementation efforts are required, but there is often a misconception about the scope and duration of implementing strategic foresight. This is where most issues stem from (Ratcliffe, 2006).

Envision change. This ability is crucial. Organisations must proactively think about possible future scenarios and imagine how their environment, market, technologies, and so on, might change. The challenge in envisioning change arises from uncertainty and limited predictability of future developments. Yet, experience shows that the future sometimes seems to be foreseeable or that expectations can emerge. Nevertheless, even though leaders are aware of problems, sometimes they stick to the status quo or hesitate to embrace change. Ratcliffe (2006) refers to this as the paradox of ‘predictable surprises’.

Creativity exploration. Ratcliffe (2006) explains that, in strategic foresight, there is a need for multi-disciplinary creativity to adapt to the radically changing world across multiple dimensions. The vision of a company looks at the future and provides the company with a feeling of guidance. It has the power to enthuse, draw attention and enhance confidence. It serves as a foundation for a grand strategy. The company’s desired future state is represented by the vision. Creativity is needed for shaping the vision and, the other way around, a clear vision is needed for introducing and integrating creative concepts that align with the ambitions of the organisation.

Communication. When implementing changes and developments, communication is a determining factor for success. To change the mindset of managers, executives, and other participants, it is crucial to grab and hold their attention. They need to understand, explain, and

convey the nature and consequences of changes and developments. Communication has to be adjusted to the needs of different audiences involved, to bring changes, values, etc. to life throughout the entire organisation (Ratcliffe, 2006).

Championing prospectives through scenarios. Outlining scenarios, which result in the development of a 'prospective', could be the approach that supports businesses getting comfortable with change, however, it must be championed. This requires commitment from leaders and decision-makers at all levels of the company. Corporate commitment can be characterised by e.g. determining clear goals, connecting with strategic planning, employing a recognisable formal method, etc. Additionally, confidence of both internal and external stakeholders is paramount (Ratcliffe, 2006).

2.5 Hypotheses development and conceptual model

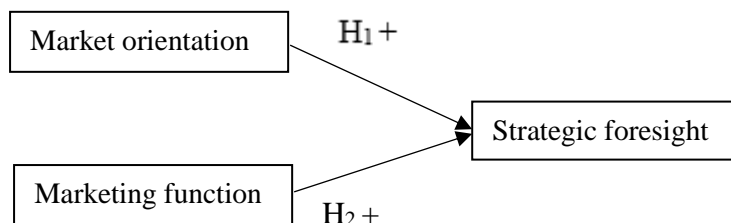
Forecasting by analysing possible future conditions and scenario development are fundamental in strategic foresight (Heger and Rohrbeck, 2007). The scenarios should be as realistic as possible. The involvement of both historical and current data, along with new information, enables this (Rohrbeck, 2008). Market orientation is all about generating this information, disseminating it through the organisation, and responding to it (Kohli and Jaworski, 1990). This process leads to an understanding of the market, suggesting that firms that are not market-oriented struggle to detect market changes and developments. Consequently, the expectation emerges that it becomes more challenging to estimate the future and create potential future scenarios due to a lack of (high-quality) information. Therefore, this suggests that the degree of a company's market orientation positively correlates with the strength of its strategic foresight capabilities. This leads to the following hypothesis: *H₁: The level of market orientation is positively related to the level of strategic foresight.*

The function of marketing mainly concerns the connection between the company and the customer (Moorman and Rust, 1999). It serves as a bridge between the two, implying communication plays a role in the marketing function (Moorman and Rust, 1999). One of the challenges of strategic foresight described in paragraph 2.4 is communication (Ratcliffe, 2006). The ability of the marketing function to distribute information, influence perceptions and drive engagement could help overcome this challenge. Furthermore, the product design and quality issues should be connected to the customer by the marketing function, as well as the additional services that enhance the product, and the financial outcomes. In this way, the marketing function focusses on the needs of the customer, without neglecting the main objective of most businesses: making a profit. Moorman and Rust (1999) examined that knowledge and skills

related to the three customer connections from the marketing function positively affect its value to the organisation. This knowledge and skills can be deployed to enhance the strategic foresight abilities of a business since they provide understanding regarding what works effectively now and what does not, which can be used for several practices in strategic foresight. This leads to the following hypothesis: *H₂: The level of the marketing function is positively related to the level of strategic foresight.*

Figure 1 presents the conceptual model, exemplifying the relationships among the three constructs. The mechanisms of market orientation and the marketing function are theorised to play a central role in shaping an organisation's strategic foresight. The hypotheses can later be used in statistical analysis to assess for significance.

Figure 1:
Conceptual model



The perception is that with an implemented marketing function and market orientation, challenges can be handled less impulsively, without overreacting to developments or missteps, due to a high level of strategic foresight.

3. Methodology

This chapter addresses the methodology. In section 3.1, the research design is explained. This is followed by the paragraph on sampling and data collection. Next, the research instrument is further explained. After that, a description of the sample is provided. Lastly, the data analysis is explained.

3.1 Research design

This research uses empirical data to answer the research question and provide more insights regarding the integration of marketing in Dutch technical B2B manufacturing companies, and its effect on the strategic foresight of these companies. To investigate the relationships between

the three variables and therefore test the two hypotheses in the current literature, a literature review has been done (Hox and Boeije, 2005). To test the hypotheses, this research adopts a quantitative design. A quantitative approach makes the results more generalisable in comparison to a qualitative approach (Ahmad et al., 2019). This research intends to examine the relationship between the variables, making this research fit a quantitative approach (Ahmad et al., 2019). To do this, a survey was executed. To minimise social desirability bias, the survey was anonymised and respondents were assured about confidentiality. Social desirability bias is characterised by individuals' tendency to provide responses they perceive as socially acceptable or desirable, rather than expressing their genuine opinions or emotions (Grimm, 2010). This leads to an overrepresentation of responses perceived as socially desirable, while responses considered socially undesirable or less desirable are often underrepresented (Grimm, 2010). Implementation of anonymisation and confidentiality diminishes the impact of this bias (Grimm, 2010). In addition, the fact that the questions were written down may help the respondents control their answers and comments. For this reason, the data gathered from a survey is expected to be more accurate than data collected from qualitative research (Gürbüz, 2017). In addition, because of the structured and standardised nature of the survey, the answers are well comparable (Gürbüz, 2017). On the other hand, with surveys, there is a risk of a low response rate and it is not possible to check if the respondents fully understand the questions (Gürbüz, 2017). To minimise this as much as possible, the questions were translated to Dutch (the respondents' mother language) for optimal comprehensibility.

3.2 Sampling and data collection

It is paramount to find a representative sample for the generalisability of the findings of this empirical study (Gürbüz, 2017). Therefore, a representative group of Dutch managers, professionals, and employees working in several manufacturing businesses engaged in the technical B2B domain were surveyed. After all, the population of this research are technical B2B manufacturing firms based in the Netherlands. As for the sample size, the sample-to-variable ratio suggests a bare minimum of 5:1, meaning five respondents per variable is the minimum sample size (Memon et al., 2020). In this case, the conceptual model consists of three variables, meaning fifteen respondents would be the bare minimum number of respondents. However, a ratio of 15:1 or 20:1 is strongly recommended. Therefore, the aim was to acquire 45 to 60 respondents for this research (Memon et al., 2020). The convenience sampling method was used for this research. Convenience sampling is a type of nonprobability sampling where participants from the population of interest are chosen based on certain practical requirements,

such as accessibility, availability during the time that the survey is accessible to respondents, and the willingness to participate (Etikan et al., 2016). The benefit of this sampling strategy is that it is not as time-consuming as other sampling strategies, and not costly (Stratton, 2021). For statistical generalisability, a random sampling technique would be more appropriate. In this sampling technique, every unit selected for the sample is given a predetermined probability of being included. In simple random sampling, every unit selected for the sample is given an equal probability of being included. In cases where the population is homogeneous, this technique provides an unbiased and more accurate estimation of the parameters (Singh and Masuku, 2014). For research with a heterogeneous population, stratified random sampling is more appropriate. When using this technique, the population is divided into subgroups that are chosen based on evidence that they affect the outcome. Sampling is performed separately within each subgroup (Singh and Masuku, 2014). As for this study, the population consists of B2B companies in the technical industries that are located in the Netherlands. In this research, the population is treated as homogeneous, because of their similarities in business activities, target markets, customer relations, etc. Nevertheless, it can be argued that this population is heterogeneous, and subgroups can be created based on the industry, for example. Due to limited time and possibilities, a random sampling technique was not possible to implement. The majority of the respondents were approached by the commissioner of this research, the supervisor and the researcher herself who have used their (business) networks to find participants through their LinkedIn profiles and other social media platforms, such as Facebook and Instagram. To boost the response rate, non-probability snowball sampling was used. This sampling technique uses a few respondents to motivate other potential respondents to participate in the study (Taherdoost, 2016). Even though this goes against random sampling, this technique was opted for due to the difficulty in reaching the population. Not using this technique would have resulted in an even smaller sample size. This was not desirable as the preferred number of respondents was not even achieved within the available time frame for this study. In this case, snowball sampling can be used to find participants through referrals from existing participants (Mweshi and Sakyi, 2020).

3.3 Research instrument

The survey was distributed and completed by the respondents online. When compared to postal surveys, an online survey has the benefit of generating a higher and faster response rate, with fewer unanswered questions, resulting in less missing data (Bryman and Bell, 2011; Gürbüz, 2017). At the time the survey was sent out, all respondents lived in the Netherlands. The survey

was conducted in Dutch, to allow the respondents to answer the questions without any language barriers (Khelifa et al., 2022). At the start of the survey, respondents were provided with a brief introduction describing the purpose of the study, the structure and number of questions, and the expected completion time. Furthermore, the respondents were informed that their answers were anonymous and confidential, and were thanked for their cooperation in advance (see Appendix A). The survey starts with the core, which is divided into three parts: (1) market orientation, (2) marketing function, and (3) strategic foresight. The core consists of items with a 5-point Likert scale: *totally agree - agree - neither agree nor disagree - disagree - totally disagree*. It uses standardised response categories to determine the relative intensity of different items (Babbie, 2007). After that, several general questions followed, aiming at demographics. The reason for putting the general questions last are focus and interest. By starting with specific questions regarding the research topic, the participant's interest can be sparked, which can increase the willingness to complete the survey. Moreover, the respondents are more likely to stay focussed on the subject, because they are not distracted by the general questions. The survey ends with the final open question of 'Are there any remarks?'. This allows the participants to freely comment on the topic as well as the survey (Story and Tait, 2019). The survey is limited to 29 questions because more questions lead to an increased time to complete, possibly leading to 'respondent fatigue', which can diminish the response rate (Bryman and Bell, 2011; Story and Tait, 2019). At the end of the survey, respondents were given the opportunity to leave their e-mail addresses to receive the results of the study and to receive an invitation for the masterclass organised by STEM-imec, where the results of the study would be presented, allowing for a discussion.

3.3.1 Scales

The scales that were used in this survey were validated and inspired by other authors. To conduct the survey, translation from English to Dutch was applied to these existing measures to overcome a possible language barrier. The statements about market orientation, marketing function, and strategic foresight were respectively inspired by Deshpandé and Farley (1998), Moorman and Rust (1999), and Amniattalab and Ansari (2016). Appendix A shows the content of the survey. The surveys in the papers that serve as the foundation for this study consist of more statements than those incorporated in this research. However, due to the limited number of statements and the degree of similarity with the other variables, no more statements were chosen to include. Too lengthy surveys cause respondents to drop out halfway through (Burchell and Marsh, 1992). Furthermore, nonresponse increases and respondents may display

reduced motivation and increased fatigue as the survey progresses, leading to a potential decline in response quality (Burchell and Marsh, 1992). To measure market orientation, the scale of Deshpandé and Farley (1998) was used. Statements included in the second scale in Deshpandé and Farley (1998) were used in this survey, since this scale measures market orientation as referred to in this research. Therefore, nine items were included in this research to measure this variable. For the measure of ‘marketing function’, the scale of Moorman and Rust (1999) was used. This part of the survey was divided into three sub-parts, namely the three customer connections. The statements of Moorman and Rust (1999) that were included in this survey were chosen because they directly measure the three customer connections (i.e. customer-product connection, customer-service quality connection, and customer-financial accountability connection). Two statements were assigned to each customer connection, meaning six items were used to measure marketing function. Strategic foresight was measured with Amniattalab and Ansari’s (2016) scale. This variable is measured with eight items. Table 1 shows the items used to measure the constructs.

Table 1:
Measuring constructs

Construct	Items	Variable	Reference
Market orientation	Our company has routine or regular measures of customer service.	MO1	Deshpandé and Farley (1998)
	Our product and service development is based on good market and customer information.	MO2	
	We know our competitors well.	MO3	
	We have a good sense of how our customers value our products and services.	MO4	
	We are more customer-focussed than our competitors.	MO5	
	We compete primarily based on product or service differentiation.	MO6	
	The customer’s interest should always come first, ahead of the owners.	MO7	
	Our products/services are the best in the business.	MO8	
	I believe this business exists primarily to serve customers.	MO9	

Marketing function	Our company's (division's) ability to translate customer needs into technical specifications for new products/services resides in marketing.	MF1	Moorman and Rust (1999)
	Marketing is effective at translating customer needs into technical specifications for new products/services.	MF2	
	Our company's (division's) ability to link customer satisfaction/retention to financial outcomes resides in marketing.	MF3	
	Marketing is effective at linking customer satisfaction/retention to financial outcomes.	MF4	
	Our company's (division's) ability to link customer needs to the operations of frontline employees resides in marketing.	MF5	
	Marketing has the knowledge and skills to link customer needs to the operations of frontline employees.	MF6	
Strategic foresight	In our company, we analyse in detail the potential future conditions.	SF1	Amniattalab and Ansari (2016)
	We forecast the potential future conditions.	SF2	
	We use scenarios to describe potential futures.	SF3	
	We have a systematic vision development process.	SF4	
	We apply visioning methods, for example, balanced scorecard, appreciation inquiry, road-mapping.	SF5	
	There is total agreement on our organisational vision across all levels, functions and divisions.	SF6	
	Our company develops activity plans that optimise progress toward the organisational strategy.	SF7	
	Our company applies rigorous measurement of business performance against goals and objectives.	SF8	

3.4 Sample description

After eliminating answers to the survey that were left unfinished, 34 answers of respondents remained. 4 outliers were removed due to their number of employees being equal to or greater than 2000, resulting in a sample size of $N = 30$. The exclusion was necessary due to the undue impact these outliers exerted on the findings. The following control variables were used: age, company size, intermediary companies, experience in the current company, company sector, and current job position. Table 2 presents the characteristics of the respondents. Due to the diversity of sectors and job positions, these variables were not included in Table 2, but described later in this paragraph.

Table 2:
Sample characteristics

Category	Description ^a	Quantity	%
Age	< 25	3	10
<i>Mean = 41.9</i>	25 – 45	15	50
<i>SD = 13.6</i>	46 – 65	11	36.7
<i>Missing = 0</i>	> 65	1	3.3
Company size	< 10	3	10
<i>Mean = 127.6</i>	10 – 50	10	33.3
<i>SD = 201.6</i>	51 – 250	15	50
<i>Missing = 0</i>	> 250	2	6.7
Intermediary companies	0	6	20
<i>Mean = 1.2</i>	1 – 3	21	70
<i>SD = 1.0</i>	> 3	2	6.7
<i>Missing = 1 (3.3%)</i>			
Experience in current company	< 5	16	53.3
<i>Mean = 6.4</i>	5 – 10	8	26.7
<i>SD = 5.9</i>	11 – 15	4	13.3
<i>Missing = 0</i>	> 15	2	6.7

$N = 30$

- a. Units for description: Age: years. Company size: number of employees. Intermediary companies: number of intermediary companies. Experience in current company: years.

The sector in which a company operates can involve differences in market dynamics, competition and regulation (Ellis, 2011). This may impact marketing activities and strategy. The respondents identified the following sectors their company operated in: electronics, metal, machinery manufacturing, defense, mechatronics, robotics, construction, gamification, infrastructure, software, renewable energy, agriculture, transportation, industrial automation, water, textile, and packaging. The job positions variable is included because of the various perspectives and responsibilities. The current job positions mentioned by the respondents were:

CEO, COO, marketing director, marketing manager, manager procurement, manager sales and services, marketer, lead engineer, intern gamification and marketing, business leader, programmer, service engineer, marketing coordinator, team lead market research, project manager, and business developer. A notable observation was that ‘marketing manager’ appeared most frequently, representing 30% of the total (9 out of 30). Company size might affect one of the constructs. It is commonly argued that marketing processes and practices in smaller firms differ from those in larger firms due to factors like limited resources. Smaller companies are less likely to adopt formal marketing plans compared to larger companies (Coviello et al., 2000). The Dutch Chamber of Commerce categorises businesses with less than 10 employees as micro, with 10 – 50 as small, with 51 – 250 as medium size and with more than 250 employees as large (Kamer van Koophandel, 2024). The number of intermediary companies was asked, because this number can indicate the complexity of the business value chain. More complex companies require a different approach compared to less complex ones, which applies to several business facets (Ellis, 2011). Employee experience determines employee engagement (Panneerselvam and Balaraman, 2022), and therefore it could influence the main constructs. For the analyses, it is decided to include one control variable, because with more than one control variable, there would be an imbalance between variables, control variables, and participants would be incorrect.. Experience in the current company is chosen to be the control variable, as this variable is expected to be of the most influence based on theory.

3.5 Data analysis

The data were analysed with IBM Statistical Package for Social Sciences (SPSS), version 26. Before starting the analyses, outliers were deleted. In total, four outliers were deleted based on the number of employees (≥ 2000), resulting in $N = 30$. These outliers had a disproportionate influence on the results. First, a factor analysis was executed for the three constructs separately. A factor analysis allows for investigating the internal structure and therefore identifying the underlying dimensions of the data (Field, 2013). A factor analysis was employed in this research to summarise and reduce the complexity of the data and generate factors that represent the values of the underlying constructs for use in the regression analyses (DeCoster, 1998). For each construct, the fixed number of factors was set on 1 factor to extract, since each construct measures one dimension (i.e. market orientation, marketing function, and strategic foresight). To determine whether an exploratory factor analysis is suitable and reliable, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett’s test of Sphericity were checked (Shrestha, 2021). The KMO value shows to what extent there are underlying dimensions

(Kaiser, 1974). A significant value in Bartlett’s test means that the variables are correlated and H0 can be rejected (Bartlett, 1950). A KMO value higher than .5 and a significant value of Bartlett’s test ($p < 0.05$) are required for the factor analysis to be adequate (Kaiser 1974; Bartlett, 1950). Appendix B presents a summary of the results of all factor analyses in a table for each construct. For the factor analyses, no rotation was employed because there was no need for enhanced interpretability (Shrestha, 2021). There were no cross-loadings (i.e. components load high on two or more items), so no rotation was needed (Shrestha, 2021).

3.5.1 Factor analysis market orientation

There were nine items in the variable of market orientation. For these items, the value of KMO was .566, which is $> .5$. Bartlett's test yielded a significant result ($p = 0.000$, i.e. $p < 0.05$), confirming the presence of significant correlations among variables. The values showed that a factor analysis was suitable and reliable. One component was extracted, with an Eigenvalue of 3.311. The Eigenvalue should be greater than 1 (Shrestha, 2021). The communalities represent the amount of variance accounted for the individual items by the component. MO3 stood out with a low communality of .067. Appendix B shows the communalities per item included in the new factor. The factor loadings in Table 3 present the items that can be clustered under the specific factor. The component matrix indicates how strong the relationship is between the item and the factor. Factor loadings $> .5$ are considered highly significant (Ariani et al., 2018).

Table 3:
Component matrix^a

	Component 1
MO1	.630
MO2	.845
MO3	.260
MO4	.717
MO5	.735
MO6	.527
MO7	.474
MO8	.513
MO9	.559

Extraction method: Principal Component Analysis.

a. 1 component extracted.

Based on the factor loadings being $> .5$, every item could be grouped into the factor, except for MO3. This item was deleted because a low loading means that this item does not contribute significantly to the construct of the factor and can therefore be considered non-representative of that specific factor (Ariani et al., 2018). This aligns with the communalities discussed before.

The new factor was named ‘MO’. To determine whether the items of the new factor MO are coherent and therefore provide a reliable result, Cronbach’s alpha was calculated. Cronbach's alpha ranges between 0 and 1. The closer the value is to 1, the higher the internal consistency of the scale (MO). A Cronbach's alpha value greater than .7 is generally regarded as acceptable (Shrestha, 2021). Cronbach’s alpha was tested for every item for market orientation, with the exclusion of MO3. Cronbach’s alpha was .784, meaning there was enough similarity between the variables to measure the underlying dimension. As part of a thorough examination, Cronbach’s alpha was calculated for all items, including MO3. Here, Cronbach’s alpha was .767, which provided another indication that MO3 should not be included in the factor. After all, a higher alpha value generally indicates better internal consistency (Shrestha, 2021). Previously, it has been made clear that this research made use of validated scales. Therefore, deleting one or more items may compromise the validity of the scale. However, considering the slight variance in the research context and the removal of just one item, along with the support of the component matrix and Cronbach’s alpha, it was decided to exclude MO3. Therefore, the variables MO1, MO2, MO4, MO5, MO6, MO7, MO8, and MO9 were combined into one factor.

3.5.2 Factor analysis marketing function

For the six items measuring the marketing function, the KMO value of .786 exceeds the acceptable threshold of .5. Bartlett’s test gave $p = 0.000$, i.e. $p < 0.05$ and therefore significant. The values showed that a factor analysis was suitable and reliable. One factor was extracted, with an Eigenvalue of 3.121. None of the communalities were very low (see Appendix B). Table 4 illustrates the factor loadings of the items for the factor extracted.

Table 4:
Component matrix^a

	Component 1
MF1	.733
MF2	.724
MF3	.687
MF4	.778
MF5	.721
MF6	.680

Extraction method: Principal Component Analysis.

a. 1 component extracted.

All of the items load high on the factor ($> .5$), meaning items MF1, MF2, MF3, MF4, MF5, and MF6 were clustered into one factor, named ‘MF’. The reliability analysis yielded a Cronbach's alpha of .813. This indicated that the underlying dimension can be measured due to the

sufficient amount of similarity. Therefore, all of the items measuring the marketing function were grouped into one factor.

3.5.3 Factor analysis strategic foresight

For this construct, there were eight items. The value of KMO was .662, which is > .5. Bartlett’s test yielded a p-value of 0.000 (< 0.05). The factor extracted had an Eigenvalue of 3.248. SF8 stood out with a low communality of .166 (see Appendix B), which is in line with the component matrix that shows that SF8 loads not high enough. Table 5 shows the factor loadings per item.

Table 5:
Component matrix^a

	Component 1
SF1	.725
SF2	.632
SF3	.699
SF4	.710
SF5	.533
SF6	.619
SF7	.547
SF8	.407

Extraction method: Principal Component Analysis.

a. 1 component extracted.

Based on the threshold of .5, SF1 to SF7 were clustered into one factor, meaning every item for strategic foresight, except for SF8. The new factor was named ‘SF’. The reliability analysis for this factor yielded a Cronbach’s alpha of .764, which is high enough to combine SF1 to SF7 into one factor. Cronbach’s alpha had a value of .750 with all items included, supporting the decision to not include SF8 in the factor.

The following new variables have been created based on the results of the factor analyses:

- MO: = MEAN (MO1, MO2, MO4, MO5, MO6, MO7, MO8)
- MF: = MEAN (MF1, MF2, MF3, MF4, MF5, MF6)
- SF: = MEAN (SF1, SF2, SF3, SF4, SF5, SF6, SF7)

4. Results

Two single linear regressions were performed since there were two independent variables, i.e. market orientation and marketing function, that predict the dependent variable, i.e. strategic foresight. The control variable 'experience' (EX) was included. Before the regression analyses were performed, several assumptions were checked and a correlation analysis was performed. The outcomes of the regression analyses led to an exploration of mediating and moderating relationships.

4.1 Assumptions

First, it was checked whether the main variables were normally distributed through P-P plots. For all three variables, the distribution mainly followed the diagonal line. Given the small sample size, the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test were checked to be extra sure the normality assumption was met. These tests compare the scores of the sample to a set of scores following a normal distribution that has the same mean and standard deviation (Field, 2013). Non-significant ($p > .05$) test results show that the sample distribution does not significantly differ from a normal distribution (Field, 2013). For market orientation, the outcomes of the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test were respectively $p = .200$ and $p = .408$. For marketing function, the outcomes were $p = .200$ and $p = .132$ and for strategic foresight the results yielded $p = .200$ and $p = .726$. These outcomes together with the P-P plot results show that the first assumption was met. Then, the assumption of homoscedasticity was reviewed with scatter plots. This assumption implies that the variance of the residual terms should be constant at every level of the predictor variables, meaning the residuals have the same variance (Field, 2013). Scatterplots were performed for H_1 (MO \rightarrow SF) and for H_2 (MF \rightarrow SF). Both scatterplots were considered homoscedastic, since the variance of error was constant across different values of the predictor variables. In other words, over the whole range of the predictor variables, the spread of the residuals stayed stable. Since the normality and homoscedasticity criteria were fulfilled, there was no necessity to assess linearity as a linear relationship can be assumed. Then, the independence of the error terms was checked through the Durbin-Watson test, which should be between 1.5 and 2.5. All Durbin-Watson values fell within this range, meaning this assumption was met. Lastly, the variation inflation factor (VIF) was applied to test for perfect multicollinearity. The assumption of no perfect multicollinearity is met when $VIF < 5$. The VIF values of the regression analyses did not exceed the threshold of 5, which suggests that the last assumption was also met.

4.2 Correlations

A correlation analysis was conducted to explore potential associations between two variables, utilising a Pearson correlation coefficient (see Table 6). The Pearson correlation coefficient ranges from -1 to +1. A value of 0 indicates the absence of any linear or monotonic correlation, while a stronger correlation is indicated as the coefficient approaches the absolute value of 1 (Schober et al., 2018). There is a statistically significant relationship between all variables, i.e. between marketing function and market orientation ($r = .42$, $p = .021$), marketing function and strategic foresight ($r = .43$, $p = .017$), market orientation and strategic foresight ($r = .41$, $p = .023$). The Pearson correlation coefficients all exceeded .4 and did not exceed .7, meaning there is a moderate correlation between the variables (Schober et al., 2018). Table 6 shows the Pearson correlation coefficients, the means, and the standard deviations.

Table 6:
Means, standard deviations, and correlations

	Mean	SD	MF	MO	SF
MF	3.70	.76	1.00		
MO	2.72	.75	.42*	1.00	
SF	3.00	.72	.43*	.41*	1.00

N = 30

* Correlation is significant at the 0.05 level (2-tailed)

4.3 Regression analyses

After conducting a correlation analysis, two simple linear regression analyses were performed to obtain more insights on how a variable (i.e. strategic foresight) is affected by the other variables (i.e. market orientation and marketing function).

The models being estimated were, for company i :

$$H_1: SF_i = \beta_0 + \beta_1 \times MO_i + \beta_2 \times EX_i + \varepsilon_i$$

Where β_0 represents the constant,

SF_i represents the strategic foresight of company i ,

β_1 represents the effect of MO_i on SF_i ,

β_2 represents the effect of EX_i on SF_i ,

ε_i represents the error term.

$$H_2: SF_i = \beta_0 + \beta_3 \times MF_i + \beta_4 \times EX_i + \varepsilon_i$$

Where β_0 represents the constant,

SF_i represents the strategic foresight of company i ,

β_3 represents the effect of MF_i on SF_i ,

β_4 represents the effect of EX_i on SF_i ,

ε_i represents the error term.

First H_1 was tested. H_1 predicted that market orientation would have a positive effect on strategic foresight. The control variable EX was not significant ($\beta = .018, p = 0.421$), meaning the control variable does not have a confounding effect on the relationship between MO and SF. The relationship between MO and SF was positive and statistically significant, ($F(2, 27) = 3.173, \beta = .401, p \leq 0.05$), meaning market orientation has a statistically significant impact on strategic foresight. In this case, $p = 0.05$. If $p < 0.05$ is considered significant, $p = 0.05$ is also considered significant (Cesana, 2018). Hence, H_1 was supported. The regression analysis used a 95% confidence interval for β [.001, .802]. Based on the results of the regression analysis, H_1 can be completed as follows: $SF_i = 1.407 + .401 \times MO_i$. The constant term (β_0) is 1.407. This is the predicted mean of SF when MO equals zero, meaning that if the value of MO is zero, the expected value of SF is 1.407. The coefficient of MO (β_1) is .401, which means that for every one-unit increase in MO, the expected value of SF increases by 0.401, holding other variables constant. Therefore, an increase in MO suggests a positive influence on SF, since β_1 has a positive value. The error term was not explicitly included in the formula because it represents the unexplained variance not explained by the predictor variable. The R^2 yielded a value of .190, meaning 19% of the variance in strategic foresight is explained by market orientation. The Durbin-Watson test yielded a value of 1.836 and the VIF value was 1.011.

After the analysis of H_1 , H_2 was examined, which predicted that the marketing function would have a positive effect on strategic foresight. Also in this model, the control variable EX was not significant ($\beta = .026, p = 0.227$). The relationship between MF and SF was positive and statistically significant ($F(2, 27) = 4.059, \beta = .394, p < 0.05$). This implies that the marketing function significantly predicts strategic foresight. Hence, H_2 was supported. The regression analysis used a 95% confidence interval for β [.061, .727]. Based on the results of the regression analysis, H_2 can be completed as follows: $SF_i = 1.770 + .394 \times MF_i$. The constant term (β_0) is 1.770. This is the predicted mean of SF when MF equals zero, meaning that if the value of MO is zero, the expected value of SF is 1.770. The coefficient of MF (β_3) is .394, which means that for every one-unit increase in MF, the expected value of SF increases by 0.394, holding other variables constant. Therefore, an increase in MF suggests a positive influence on SF, since β_3 has a positive value. The error term was not explicitly included in the formula because it represents the unexplained variance not explained by the predictor variable. The R^2 yielded a value of .231, meaning 23.1% of the variance in strategic foresight is explained by the marketing function. The Durbin-Watson test yielded a value of 1.837 and the VIF value was 1.087. The main results of the regression analyses are shown in Table 7.

Table 7:
Regression results (single linear)

	Regression weights	Constant	β -coefficient	Standard error	R ²	F (2, 27)	t	p-value
H₁	MO → SF	1.407	.401 [.001, .802]	.195	.231	3.173	2.055	0.050*
H₂	MF → SF	1.770	.394 [.061, .727]	.162	.121	4.059	2.425	0.022*

N= 30

* $p \leq 0.05$

The β -coefficients indicate that the effect of MO on SF ($\beta = .401$) and MF on SF ($\beta = .394$) are nearly the same, meaning that market orientation and marketing function have a similar amount of positive influence on strategic foresight. However, based on the means in Table 6, it appears that more companies seem to focus on market orientation rather than having a strong marketing function.

After the variables market orientation and the marketing function had been tested independently from each other on strategic foresight, a multiple regression analysis was performed with both independent variables included, using the model: $SF_i = \beta_0 + \beta_1 \times MO_i + \beta_2 \times MF_i + \beta_5 \times EX_i + \varepsilon_i$. This analysis yielded a non-significant result. EX had a p-value of 0.389 and $\beta = .019$. The control variables' non-significance was to be expected, as it aligns with the pattern seen in both H₁ and H₂. However, there is a contrast with the previous regression analyses. The results revealed a p-value of 0.228 ($p > 0.05$) for market orientation and a p-value of 0.096 ($p > 0.05$) for marketing function, which means that when both variables are included in the model simultaneously, the individual effects are not significant on the 5% level. Nevertheless, MF remains significant on the 10% level. Therefore, the results can be interpreted as market orientation being non-significant and marketing function being significant in this model with all variables included. The β -values of market orientation and marketing function in this model were, respectively, 0.305 and 0.255. One primary consideration is the correlation between the variables MO and MF that may explain the outcome, because this can cause the visibility of the relationships to be diminished (Daoud, 2017). Therefore, multiple regression results can significantly deviate from the single linear regression results (Daoud, 2017). However, the correlation coefficients (see Table 6) do not indicate a very high correlation between the variables, and the VIF values were sufficiently low (< 5), even close to 1. Therefore, a possible explanation for the outcome is the small sample size. Small sample sizes could lead to less precise parameter estimates and have less statistical power, and therefore, small sample sizes may influence the generalisability and reliability of the results of the study (Rahman, 2017).

4.4 Exploratory analyses

The last outcome prompted to explore possible moderating and mediating relationships. To examine these relationships, the PROCESS SPSS macro was used. The PROCESS custom dialog box, outlined by Hayes (2012), offers moderation and mediation tools in a straightforward menu and dialog box interface. First, an analysis was conducted to determine whether an interaction effect is present (moderation), using centred variables and a 95% confidence interval. Centring is important when a model contains an interaction term for enhanced interpretation (Field, 2013). Interpretation of the regression coefficients for the predictor(s) can become problematic when the zero level of a predictor does not represent a meaningful value. Centring ensures that the coefficients retain a meaningful interpretation, especially when using interaction terms in regression models (Field, 2013). Centring is ‘the process of transforming a variable into deviations around a fixed point’ (Field, 2013, p. 399). Centering is automatically managed by the PROCESS tool, eliminating the need for manual centering adjustments. Because MF was significant in the multiple regression model, MF was regarded to be the predictor (X) variable. MO was the moderator variable and SF was the outcome (Y). The moderator variable is the one that affects the relation between the predictor variable and the outcome (Field, 2013). The model tested for moderation is as follows: $SF_i = \beta_0 + \beta_1 \times MO_i + \beta_2 \times MF_i + \beta_3 \times MO_i \times MF_i + \varepsilon_i$. With this model, it is predicted that the moderator variable (MO) will affect the relationship between MF and SF (Field, 2013). The control variable was not included since this variable was not significant in the regression analyses performed before. The outcomes of the analysis are presented in Table 8.

Table 8:
Moderation results

	β-coefficient	Standard error	t	p
Constant	3.062 [2.804, 3.321]	0.126	24.328	.000**
MF	0.421 [0.011, 0.831]	0.199	2.112	.044*
MO	0.245 [-0.170, 0.661]	0.202	1.215	.235
MF × MO	0.283 [-0.758, 0.192]	0.231	-1.223	.232

N = 30

R² = .293

* p < 0.05

** p < 0.01

The aim was to observe a possible change in the relationship between MF and SF, when MO acts as a moderator (Field, 2013). The interaction effect was statistically non-significant ($p = .232$), indicating that market orientation does not moderate the effect of marketing function on strategic foresight. Because the interaction effect was not significant, indicating the absence of a moderation effect, a slope analysis was not conducted. This analysis is typically employed to further investigate and interpret the nature of the moderation effects (Field, 2013), which were not observed in this case.

After examining the presence of a moderation effect, the potential for mediation was explored. Through mediation analysis, it is examined whether the relationship between the predictor variable and the outcome is explained by the mediator (Field, 2013). In essence, it was tested whether the influence of MF on SF is mediated by MO. The results using the PROCESS tool yielded that MF also significantly predicts SF positively ($\beta = .415$, $t = 2.543$, $p = .017$), meaning the total effect of .415 was significant. Furthermore, the results showed that with MO included in the model, MF predicts SF only on the 10% level ($\beta = .302$, $t = 1.720$, $p = .097$), and that MO no more significantly predicts SF ($\beta = .303$, $t = 1.527$, $p = .138$). Therefore, the direct effect here of .302 was significant at the 10% level. These results align with the results from the multiple regression analysis, however, the values slightly differ. The reason these values differ from the multiple regression outcomes is that in this exploratory analysis, the control variable was not included. This was opted for because of the non-significance of the control variable in the main regression analyses. The mediation analysis revealed that MF significantly predicts MO positively ($\beta = .372$, $t = 2.450$, $p = .021$). R^2 is .177, meaning that 17.7% of the variance in MO is explained by MF. For the indirect effect, bootstrapping was used. Bootstrapping is a method to obtain reliable estimates of the indirect effects, as well as their confidence intervals (Field, 2013). However, the indirect effect of .113 was not significant. Given the bootstrapped confidence intervals, the true β -value for the indirect effect falls between -.065 and .321. A value of $\beta = 0$ would indicate no effect at all, and this range includes zero. Given the fact that the confidence interval does contain zero, there is not likely to be a genuine indirect effect (Field, 2013). Therefore, it can be concluded that no mediation effect was found in this study. Table 9 shows the results of the mediation analysis.

Table 9:
Mediation results

	β -coefficient	Standard error	t	p
Total effect	.415	.163	2.543	.017**
Direct effect	.302	.176	1.720	.097*
	β -coefficient	Bootstrap standard error	Bootstrap 95% CI Lower	Bootstrap 95% CI Upper
Indirect effect	.113	.097	-.065	.321

N = 30

* p < 0.10

** p < 0.05

Given the significance of the direct effect and the total effect, together with the insignificance of the indirect effect, MF is influencing MO, but then, MO is not influencing SF. So, no mediation effect was found. Therefore, it can be concluded that the impact of marketing function on strategic foresight is not being passed through market orientation.

5. Discussion and Conclusion

In this study, the relationships were tested between the marketing function and market orientation as independent variables and strategic foresight as the dependent variable, in the context of technical B2B companies in the Netherlands. This was transformed into the following research question: *How do market orientation and the integration of the marketing function impact the strategic foresight capabilities of manufacturing B2B firms?* Prior to the testing of the research question, three sub-questions were answered using literature research. Thereafter, the hypotheses for the central research question were developed and visualised using a model. The results from H₁ investigating a positive relationship between the level of market orientation and the level of strategic foresight suggested that as market orientation increases, strategic foresight also does. Similarly, H₂ assumed that there was a positive relationship between the development of the marketing function and the level of strategic foresight, implying that as the marketing function becomes more advanced, the level of strategic foresight increases. Both hypotheses were tested separately and both hypotheses were supported, leading to the conclusion that both market orientation and marketing function significantly predict strategic foresight. The strength of the effect on strategic foresight was nearly identical for market orientation and marketing function. The outcomes were to be

expected based on the literature research regarding the three constructs. Afterwards, a multiple regression analysis was performed including both market orientation and marketing function as independent variables in the model. Surprisingly, the outcome differed from the results of the independent single linear regression analyses of H₁ and H₂. The analysis of the combined model yielded a non-significant result for market orientation and a significant result on the 10% level for marketing function, meaning that when both concepts are implemented, the marketing function does have an effect on strategic foresight and the market orientation does not. This outcome contradicts the literature, that is not pointing in this direction. Moorman and Rust (1999) state that the marketing function and market orientation could and should coexist, and explain that there is a positive relationship between the two. A high correlation between the variables could account for the difference in results between the single linear regression analyses and the multiple regression analysis (Daoud, 2017). However, the VIF values and the correlation values did not indicate any correlation problems. Therefore, the difference is likely due to the small sample size, which could influence the reliability and generalisability of the results due to less statistical power (Rahman, 2017). Other analyses of this study did support Moorman and Rust's (1999) statement, since the analysis where the marketing function was included as the predictor variable and market orientation as the outcome variable, showed a significant result. However, it was expected that there would not be a perfect balance of integration between market orientation and the marketing function within the company. The descriptives were analysed to compare how market-oriented companies are compared to the integration of the marketing function. The descriptives showed that a certain level of market orientation appears to be more common among companies than having a well-developed marketing function. The mean of market orientation was 3.70 and of marketing function 2.72 (see Table 6). This means that respondents mostly agreed with the statements regarding market orientation within their firm and on average, answered 'neither agree nor disagree' for the statements regarding marketing function. The score for the marketing function was lower than the score for market orientation, indicating the marketing function is less developed than the market orientation. Hence, the participating companies display a modest orientation towards customer-centric practices, alongside efforts to manage internal operations and understand market dynamics for competitive advantage. However, participating companies have difficulty linking the customer to different aspects within the company. This may be due to the nature of market orientation and the marketing function. Market orientation can be seen as something cultural (Deshpandé and Webster, 1989), since it represents an organisation-wide common thread and mindset regarding a customer-centric approach (Shapiro, 1988; Kohli and Jaworski,

1990; Deshpandé and Webster, 1989). The marketing function continuously links the customer to multiple organisational processes (Day, 1994; Moorman and Rust, 1999), indicating that the marketing function leans more towards organisational aspects. If viewed from that perspective, different approaches are needed to implement these two concepts. Organisational change often focusses on achieving specific problems and goals (Moran and Brightman, 2000), whereas cultural change is about the deeper values and assumptions and focusses on psychological and social processes (Deshpandé and Webster, 1989).

The results of the first regression analyses gave reason to investigate possible moderating and mediating relationships further. Additionally, Moorman and Rust (1999) discussed the marketing function beyond the market orientation of a firm. This could indicate that there is a moderating or mediating relationship. This was tested for in the exploratory analyses. However, both analyses provided non-significant results, meaning no moderation or mediation effect was found. In none of the analyses there was a significant result for the control variable. This means that there was no statistical relationship within the context of the analyses in this study between the experience the respondent had in their current company and the strategic foresight. Therefore, the control variable did not appear to have a significant influence on the relationship between the independent variables and strategic foresight. For this reason, the control variable was not included in the exploratory analyses.

Overall, this research enriches our knowledge regarding the relationships between the constructs of market orientation, marketing function and strategic foresight. Moreover, this research focused on B2B manufacturing companies combined with marketing, a domain that is yet underexposed in the literature (Grewal et al., 2012). This study adds to the scarcity of research that connects the constructs of market orientation, marketing function and strategic foresight within a B2B context. In addition, this research gave more insights into what extent market orientation and the marketing function are actually integrated in the B2B manufacturing industry.

Concluding, market orientation and marketing function both significantly predict strategic foresight. Results of the multiple regression analyses showed insignificance, however, these results may be distorted by the small sample size. Overall, market orientation is better integrated than marketing function in B2B manufacturing organisations. Exploratory analyses were conducted to discover potential moderating and mediating relationships, but no significant outcomes were found.

6. Managerial Implications

This research is conducted in the context of the technical B2B domain. The findings of this research offer several practical implications that may aid these companies in enhancing their strategic foresight through marketing practices. There are several practical challenges faced by technical B2B companies in adopting marketing practices. The challenges and their management approaches are described next.

Establishing and maintaining good customer relationships. B2B companies' interactions with clients are now more relationship-based, rather than transactional-based (Baines et al., 2009; Grewal et al., 2012). Successful businesses acknowledge the importance of maintaining tight customer relationships and create strategies and protocols to establish them from the start (Levitt, 1983). The role of the marketing function extends beyond promotion and advertisement and is to establish relationships between the customer and several facets of the business, including product offerings, service delivery, and financial accountability (Moorman and Rust, 1999). This holistic approach ensures that customer relationships are nurtured comprehensively. Purchases in the B2B domain often involve extensive evaluation and selection processes, due to the size of the purchases. Strategic decisions are usually driven by technical specifications and multiple individuals are involved in the decision-making process (Ellis, 2011). Because several individuals are seen together as one client, in a B2B setting it takes more than having a good relationship with only one individual to keep the buying company as a client. Strong and close customer relationships and customer retention are indispensable for sustainable competitive advantage (Ellis, 2011) and prove to be the key determinant of market share (Rust and Zaharik, 1993).

Recognising clear target markets and developing tailored offerings. Achieving customer retention requires customer satisfaction (Rust and Zaharik, 1993). Customer satisfaction and retention are closely related to a firm's quality of customer relationships and the importance of customer satisfaction and retention in business settings cannot be overemphasised. Satisfied customers are more likely to stick with the organisation, continue to purchase from it in the long run, and raise their expenditures (Williams et al., 2009). Therefore, satisfied customers who demonstrate a recurring pattern are a valuable asset to the company. It is important to be able to recognise and identify the customers, as this knowledge serves as a foundation for developing an accurate understanding of their needs and preferences (Hall, 2022). Here is where market orientation comes into play. As explained in the literature review of this research, market orientation is about market intelligence generation, dissemination and responsiveness (Kohli

and Jaworski (1990). To also be able to develop tailored offerings, the customer must be connected to the company, which is done through the marketing function (Moorman and Rust, 1999). It is relevant to be mindful of the fact that the process varies in the B2B context in contrast to B2C. Even though the B2B market is bigger than the B2C market, companies operating in a B2C setting encounter large numbers of diverse individual customers (Ellis, 2011). Consequently, finding common patterns to segment their market becomes a comparatively easier task. In the B2B sector, often a few clients are responsible for a large share of the spending in a particular segment (Ellis, 2011). For B2B companies, therefore, the process of segmentation becomes a challenge (Cortez et al., 2021).

Aligning strategic goals and market responses. As broadly explained in this study, a market-oriented and customer-centric approach is not exclusively for the marketing department, but must run through the whole company (Kohli and Jaworski, 1990). When it comes to applying marketing practices, aligning all employees to reach strategic goals and properly respond to market developments is a challenge. Especially in the technical B2B sector, where the organisational culture is naturally focussed on product innovation and technical excellence, and not particularly on market orientation and customer centricity (Oliva, 2012). Assuming this circumstance, shifting the focus would require a transformation in organisational thinking, which will involve cooperation and coordination across the entire company (Kohli and Jaworski, 1990). This organisational change requires the people within the company to change, and therefore, engagement of employees is crucial (Goodman and Loh, 2011). However, the shift in emphasis on market orientation and customer centricity does not mean that technological expertise and product development are any less important. Both are interrelated (Aydin, 2021). In addition, interfunctional coordination has a positive effect on product innovation (Aydin, 2021). Therefore, good balance must be found, focussing on strategic goals and market responses, while maintaining sufficient attention on the technological aspect.

Servitisation. Servitisation is a phenomenon that is becoming more and more common and important in almost all industries on a global scale (Lusch and Vargo, 2006). Based on Baines et al. (2009) and Kamp and Parry (2017), Wagstaff et al. (2021, p. 836) describe servitisation as ‘the process a manufacturing organisation undergoes to increase their competitive advantage by developing the services they offer to their customers’. Manufacturing firms are increasingly shifting from a product-centric approach to one that incorporates advanced services like technical support and repairs, which can be derived from their product offerings (Baines et al., 2009; Baines and Shi, 2015). Besides adding services, servitisation also involves the increase of customer focus and development of relationships (Oliva and Kallenberg, 2003). Customers

place high requirements towards companies and are demanding more and superior services (Oliva and Kallenberg, 2003). Manufacturing companies aim to emphasise customer value and strengthen customer relationships by adding these services to their product offerings (Hakanen et al., 2017). After all, the perceived value of the customer determines the customer value, rather than the objective value of the product (Baines et al., 2009). Therefore, servitisation could contribute to improving market orientation and the marketing function. Competing using strategic services is increasingly being seen as a distinguishing factor for innovative manufacturing companies (Spring and Araujo, 2009). Particularly, companies aim to gain competitive advantage by incorporating such resources with intangible value (Hakanen et al., 2017). There are companies who already fully understand the importance of servitisation and have successfully integrated it into the business. Yet, other businesses still struggle with finding an effective way to integrate servitisation while maintaining focus on manufacturing activities (Neely et al., 2011). Transitioning towards servitisation involves organisation-wide fundamental changes regarding a company's mindset, making it a major managerial challenge. Several elements in the firm must be redefined, and new principles, structures and processes must be developed (Oliva and Kallenberg, 2003). Additionally, because competitors may already have advanced services implemented, it might be challenging to catch up or differentiate. Furthermore, investments are needed. For example, skilled personnel, or investments in infrastructure that is not generating revenue immediately (Oliva and Kallenberg, 2003). It is therefore a threshold that companies must cross if they want to adopt servitisation effectively.

Informal organisation-wide marketing communication. Research in the management literature shows the importance of more flexible, less formal systems in determining organisational activities (e.g. Ouchi, 1979; Lau, 1996; Dreyer and Grønhaug, 2004). Kohli and Jaworski (1990) emphasise that informal communication throughout the whole company is a powerful tool for having personnel market-oriented and informed about customer developments and market developments. An informal communication network allows for sharing information quickly and easily. The value of informal communication extends beyond the marketing department to other departments within the organisation. 'Hall talk' and informal interactions help to keep the employees thinking about clients and their needs, and contribute to the involvement of employees in overall organisational goals and strategic targets because it coordinates employees and departments. Other informal means like conversations with business associates, are also a source for generating market intelligence (Kohli and Jaworski, 1990).

The aforementioned underlines the importance of implementing market orientation as well as the marketing function. Overcoming these challenges implies a good implementation of both concepts and will help find a stable strategy for future circumstances. As pointed out in this research, market orientation and the marketing function significantly predict the level of strategic foresight. Strategic foresight allows for a firm to effectively navigate in times of uncertainty and change. It emerges as a powerful tool for fostering proactive decision-making and future-proofing organisational strategies against unforeseen disruptions. (Amniattalab and Ansari, 2016; Heger and Rohrbeck, 2007).

7. Limitations and Future Research Recommendations

For this research, the convenience sampling method was used. However, a random sampling technique would be more appropriate to ensure statistical generalisation. Due to limited time and possibilities, a random sampling technique was not possible to implement. Therefore, it is recommended for future research in this area to use a random sampling method, taking into account the intention of the research to divide the population into subgroups or not. In addition, 45 to 60 respondents were preferred for this research, based on the sample-to-variable ratio (Memon et al., 2020). Due to limited time and resources, this research's analyses were executed based on the answers of 30 respondents. Initially, 34 respondents answered the survey, but after eliminating the outliers, 30 respondents remained to perform the analyses. Future research efforts are encouraged to implement studies with the recommended number of respondents or more (i.e. a minimum of 45 respondents (Memon et al., 2020)). Future researchers could take more time, hand out rewards, and use several other platforms in addition to the platforms used in this research, to overcome a small sample size. Moreover, this research included a few respondents who are technically in the B2C field, since they indicated that there were no intermediary companies between their company and the end user. It is recommended that future research exclusively focusses on companies operating in the B2B domain. Furthermore, not all questions from the validated measuring instruments have been fully used. This could have led to some missing information and might affect the validity of the scales. However, this choice was made to avoid overburdening respondents with an overly extensive questionnaire. Fully utilising the full scales with all questions would have resulted in a significant increase in response burden, with respondents having to answer up to 108 questions. This may increase nonresponse, reduce motivation and increase fatigue among the respondents, leading to a

potentially lower quality of the answers (Burchell and Marsh, 1992). Therefore, it was decided to strike a balance between obtaining detailed information and maintaining the involvement of respondents. Lastly, this research was conducted using data exclusively from businesses located in the Netherlands and all respondents were Dutch-speaking, since the survey was conducted in Dutch. It is suggested for forthcoming studies to incorporate larger-scale international data, and generate responses from participants from different countries and cultures, to provide more general and robust results.

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Appendices

Appendix A: Survey

English version

Dear participant,

I am pleased to invite you to participate in this research. This study aims to understand to what extent technical manufacturing companies in the B2B sector are market-oriented and have integrated the marketing function, and to explore the implications of this integration on their strategic foresight. Your insights and perspectives are crucial to conducting this research. I appreciate your time and input in advance.

The survey consists of 28 questions, of which the content-related questions are formulated as statements. For each statement, you will be asked to indicate your level of agreement by choosing from the options *Strongly agree – Agree – Neutral – Disagree – Strongly disagree*. After that, the general questions will follow. The survey has a completion time of approximately 6-8 minutes. In this survey, participants are anonymous and responses will be treated confidentially. Thank you for your willingness to participate.

Part 1: Market orientation

1. Our company has routine or regular measures of customer service.
2. Our product and service development is based on good market and customer information.
3. We know our competitors well.
4. We have a good sense of how our customers value our products and services.
5. We are more customer-focussed than our competitors.
6. We compete primarily based on product or service differentiation.
7. The customer's interest should always come first, ahead of the owners.
8. Our products/services are the best in the business.
9. I believe this business exists primarily to serve customers.

Part 2: Marketing function

Customer-product connection

10. Our company's (division's) ability to translate customer needs into technical specifications for new products/services resides in marketing.

11. Marketing is effective at translating customer needs into technical specifications for new products/services.

Customer-financial accountability connection

12. Our company's (division's) ability to link customer satisfaction/retention to financial outcomes resides in marketing.
13. Marketing is effective at linking customer satisfaction/retention to financial outcomes.

Customer-service quality connection

14. Our company's (division's) ability to link customer needs to the operations of frontline employees resides in marketing.
15. Marketing has the knowledge and skills to link customer needs to the operations of frontline employees.

Part 3: Strategic foresight

16. In our company, we analyse in detail the potential future conditions.
17. We forecast the potential future conditions.
18. We use scenarios to describe potential futures.
19. We have a systematic vision development process.
20. We apply visioning methods, for example, balanced scorecard, appreciation inquiry, road-mapping.
21. There is total agreement on our organisational vision across all levels, functions and divisions.
22. Our company develops activity plans that optimise progress toward the organisational strategy.
23. Our company applies rigorous measurement of business performance against goals and objectives.

Part 4: General questions

24. How many employees does your company have?
25. In which sector(s) is your company active?
26. How many companies are between your company and the end user/consumer for your main market?
27. What is your current position?
28. How many years of experience do you have in the company where you are currently employed?

29. What is your age?

*Are there any remarks?

* The results are expected to be known in March 2024. If you would like to receive the results, please leave your email address here.

Dutch version

Geachte deelnemer,

Graag nodig ik u uit om deel te nemen aan dit onderzoek. Het doel van dit onderzoek is om te begrijpen in hoeverre technische maakbedrijven in de B2B sector marktgeoriënteerd zijn en de marketingfunctie geïntegreerd hebben, en wat het effect hiervan is op de strategische vooruitziende blik. Uw inzichten en perspectieven zijn van cruciaal belang voor het uitvoeren van dit onderzoek. Bij voorbaat waardeer ik uw tijd en inbreng.

De survey bestaat uit 28 vragen, waarvan de inhoudelijke vragen geformuleerd zijn als stellingen. Voor elke vraag wordt u gevraagd om uw mate van overeenstemming aan te geven door te kiezen uit de opties *Helemaal mee eens – Mee eens – Neutraal – Mee oneens – Helemaal mee oneens*. Daarna volgen enkele algemene vragen. De invultijd van de survey is ongeveer 6-8 minuten. Alle deelnemers in deze survey zijn anoniem en alle antwoorden zijn vertrouwelijk. Bedankt voor uw bereidheid tot deelneming aan dit onderzoek.

Onderdeel 1: Marktoriëntatie

1. Mijn bedrijf hanteert routinematige of regelmatige maatregelen op het gebied van de klantenservice
2. Onze product- en dienstontwikkeling is gebaseerd op goede markt- en klantinformatie.
3. We kennen onze concurrenten goed.
4. We hebben een goed idee van hoe onze klanten onze producten en diensten waarderen.
5. We zijn klantgerichter dan onze concurrenten.
6. We concurreren voornamelijk op basis van product- of dienstdifferentiatie.
7. Het belang van de klant moet altijd voorop staan, vóór de eigenaren van het bedrijf.
8. Onze producten/diensten zijn de beste in de branche.
9. Ik geloof dat mijn bedrijf in de eerste plaats bestaat om klanten te bedienen.

Onderdeel 2: Marketingfunctie

Klant-product connectie

10. Het vermogen van mijn bedrijf (divisie) om de behoeften van klanten te vertalen in technische specificaties voor nieuwe producten/diensten ligt in marketing.
11. Marketing is effectief in het vertalen van klantbehoeften naar technische specificaties voor nieuwe producten/diensten.

Klant-financiële verantwoording connectie

12. Het vermogen van mijn bedrijf (divisie) om klanttevredenheid/retentie te koppelen aan financiële resultaten ligt in marketing.
13. Marketing is effectief in het koppelen van klanttevredenheid/retentie aan financiële resultaten.

Klant-service kwaliteit connectie

14. Het vermogen van mijn bedrijf (divisie) om de behoeften van klanten te koppelen aan de activiteiten van eerstelijns werknemers ligt in marketing.
15. Marketing heeft de kennis en vaardigheden om de behoeften van klanten te koppelen aan de activiteiten van medewerkers.

Onderdeel 3: Strategische vooruitziendheid

16. In ons bedrijf analyseren we in detail de mogelijke toekomstige omstandigheden.
17. We voorspellen de mogelijke toekomstige omstandigheden.
18. We gebruiken scenario's om de potentiële toekomst te beschrijven.
19. We hebben een systematisch proces voor het ontwikkelen van de visie.
20. We passen methoden toe voor de ontwikkeling van de visie, bijvoorbeeld een balanced scorecard, waarderingsonderzoek, roadmapping.
21. Er is volledige overeenstemming over onze organisatievisie op alle niveaus, functies en divisies.
22. Ons bedrijf ontwikkelt plannen voor activiteiten die de voortgang in de richting van de organisatiestrategie optimaliseren.
23. Ons bedrijf past strikte meting van bedrijfsprestaties tegen doelen en doelstellingen toe.

Onderdeel 4: Algemene vragen

24. Hoeveel medewerkers heeft uw bedrijf?
25. In welke sector(en) is uw bedrijf actief?
26. Hoeveel bedrijven zitten er tussen uw bedrijf en de eindgebruiker/consument voor uw belangrijkste markt?
27. Wat is uw huidige functie?

28. Hoeveel jaar ervaring heeft u in het bedrijf waar u momenteel werkzaam bent?

29. Wat is uw leeftijd?

* Heeft nu nog opmerkingen en/of aanvullingen naar aanleiding van deze survey?

*De verwachting is dat de resultaten in maart 2024 bekend zullen zijn. Indien u de resultaten zou willen ontvangen, laat dan uw e-mailadres hier achter.

Appendix B: Factor analyses

Table 10:
Summary for market orientation factor analysis

Factor		Communalities	Factor loadings	Cronbach's alpha	Eigenvalue
<i>Items</i>	<i>Component 1</i>			.784	3.311
MO1	Our company has routine or regular measures of customer service.	.397	.630		
MO2	Our product and service development is based on good market and customer information.	.714	.845		
MO4	We have a good sense of how our customers value our products and services.	.514	.717		
MO5	We are more customer-focused than our competitors.	.541	.735		
MO6	We compete primarily based on product or service differentiation.	.277	.527		
MO7	The customer's interest should always come first, ahead of the owners.	.225	.474		
MO8	Our products/services are the best in the business.	.263	.513		
MO9	I believe this business exists primarily to serve customers. 9	.313	.559		

Table 11:
Summary for marketing function factor analysis

Factor		Communalities	Factor loadings	Cronbach's alpha	Eigenvalue
<i>Items</i>	<i>Component 1</i>			.813	3.121
MF1	Our company's (division's) ability to translate customer needs into technical specifications for new products/services resides in marketing.	.537	.733		
MF2	Marketing is effective at translating customer needs into technical specifications for new products/services.	.525	.724		
MF3	Our company's (division's) ability to link customer satisfaction/retention to financial outcomes resides in marketing.	.471	.687		
MF4	Marketing is effective at linking customer satisfaction/retention to financial outcomes.	.605	.778		
MF5	Our company's (division's) ability to link customer needs to the operations of frontline employees resides in marketing.	.519	.721		
MF6	Marketing has the knowledge and skills to link customer needs to the operations of frontline employees.	.463	.680		

Table 12
Summary for strategic foresight factor analysis

Factor		Communalities	Factor loadings	Cronbach's alpha	Eigenvalue
<i>Items</i>	<i>Component 1</i>			.764	3.248
SF1	In our company, we analyse in detail the potential future conditions.	.526	.725		
SF2	We forecast the potential future conditions.	.399	.632		
SF3	We use scenarios to describe potential futures.	.488	.699		
SF4	We have a systematic vision development process.	.505	.710		
SF5	We apply visioning methods, for example, balanced scorecard, appreciation inquiry, road-mapping.	.284	.533		
SF6	There is total agreement on our organisational vision across all levels, functions and divisions.	.383	.619		
SF7	Our company develops activity plans that optimise progress toward the organisational strategy.	.300	.547		