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VISUAL AESTHETICS IN PRODUCT DEVELOPMENT
A BALANCE BETWEEN COMMERCIAL AND CREATIVE IMPERATIVES

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“Visual aesthetics in product development. A balance between commercial and creative imperatives.”

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"You will never be complete, that's how it is meant to be."

Thomas Tranströmer

No, as a human being, you never become complete and the above line by Tranströmer is sometimes very comforting. Constantly, new experiences are being enjoyed and new lessons learnt. Life is short and you need to make the most of it. These past years' work on this thesis have been an important part of my life journey. This thesis is the most tangible result of my years in academia, and I have many to thank for it now that it is being published.

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Lastly but most importantly, I will for ever be grateful to my wonderful family - Per, Ellen and Måns. Thank you for giving me the opportunity to make this journey. Without your support and love it would have been impossible. I have not always been easy to live with during these years but still you have been there for me. *Jag älskar er gränslöst*.

ABSTRACT

The literature presents a number of advantages regarding companies' strategic focus on product design, arguing that the dimension of visual aesthetics in products may help a company to create commercial success, e.g. through product differentiation and as a means of company brand recognition. However, developing new products that have visual aesthetics as an important dimension is not without difficulty, and may lead to a number of managerial challenges.

The purpose of this doctoral thesis is to describe and analyse how companies develop products that have visual aesthetics as an important dimension. The thesis describes and analyses: how the dimension of visual aesthetics affects the characteristics of the new product development process; how companies strike a balance between commercial and creative imperatives during new product development; and how companies source and collaborate using artistic design resources during new product development.

Based on findings from five new product development projects and from interviews with managers at twelve Swedish designer furniture manufacturers, the thesis concludes that the dimension of visual aesthetics in products affects new product development in different ways. First, companies' development of visual aesthetics calls for a more creative, artistic development process whereby, for example, idea generation and evaluation are often flexible in relation to plans made. Moreover, the different and subjective judgement of the aesthetic value of products has implications for new product development, e.g. that the company needs to address and balance imperatives stemming from different audiences, i.e. the designer's self, peers, and the mass market, during product development. Also, it is concluded that the sourcing of designer resources and the composition of designer portfolios are both critical and related to companies' desired brand image. A close and trustful working relationship between the designer and the manufacturer is a basis for companies' successful product development.

Theoretically, this research contributes to the product development literature through its findings on companies' new product development processes in a seldom researched context, i.e. the development of designer products. Additionally, it contributes to the literature on design outsourcing by presenting new findings on the interplay between artistic design resources and managers. Moreover, it also contributes to the marketing literature by providing fresh insights into how companies balance their commercial and creative interests when developing new products.

Keywords: visual aesthetics, product design, product development, furniture, designer products

SAMMANFATTNING

Design och dess relation till företags marknadsföring är något som diskuteras både i akademisk litteratur och i samhället i övrigt. Genom att förstå och utnyttja design kan företaget skapa kommersiella fördelar, t ex genom att differentiera produkten från konkurrenternas och skapa igenkänning för företagets varumärke. Dock är utveckling av produkter med design som en viktig dimension inte oproblematisk utan kan leda till stora utmaningar för företaget.

Tre sådana utmaningar i företag beskrivs och analyseras i denna avhandling. För det första behandlar avhandlingen hur ett fokus på design påverkar företagets produktutvecklingsprocess. Vidare studeras hur företaget balanserar kreativa och kommersiella intressen under produktutvecklingsprocessen. Dessutom behandlar avhandlingen hur företaget införskaffar och samarbetar med formgivare.

Den industriella kontext som valts för denna avhandling är den svenska designmöbelindustrin. Avhandlingens slutsatser bygger på fallstudier inom väletablerade och framgångsrika företag inom denna industri.

Avhandlingen visar att dimensionen av design påverkar företagens utvecklingsarbete på olika sätt. Först visar studien att de studerade företagens utveckling av designmöbler innebär en kreativ utvecklingsprocess där t.ex. idé-generering och -urval sällan grundas i strikta produktplaner utan i stället präglas av flexibilitet och tillvaratagande på uppkomna möjligheter. Vidare är bedömningen av en produkts designvärde subjektiv och svår att formulera i ord. Urvalet av lovande produktidéer grundas därför i hög grad på ledningens goda kunskap om design och erfarenhet inom branschen. Utöver detta påverkas företagens produktutveckling på olika sätt av det faktum att designvärde också skapas genom uppmärksamhet och uppskattning av exempelvis press, mässor och utmärkelser. Det visas också att företagens urval av formgivare är kritiskt och basen för ett framgångsrikt utvecklingsarbete. I de studerade företagen sker utveckling av produkter i nära och förtroendefullt samarbete mellan managers och formgivare. Dessutom kan företag påverka sitt varumärke genom att skapa en genomtänkt strategi för urval av formgivare och samarbetsformer med dessa.

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NEW PRODUCT DEVELOPMENT IN DESIGN-LED ORGANIZATIONS. INSIGHTS FROM THE SWEDISH FURNITURE MANUFACTURING INDUSTRY. Lindahl, Ingela and Grundström, Christina (2012). Published in the conference proceedings of the 12th International Design Management Research Conference DMI, Boston, 2012

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PART I

EXTENDED SUMMARY

1 INTRODUCTION

This section presents the background to this doctoral thesis and discusses the relevance of research on the selected issue. Additionally, the purpose and research questions are justified and presented.

Today, product design receives a lot of interest within industry and there are numerous well-known examples of companies from different industrial contexts, e.g. Apple, Alessi, Bang&Olufsen, BMW and Kartell, that base their business success on their capability to continuously develop products using innovative product design in terms of both the product's visual aesthetics and its functionality. In the marketing literature, the potential of product design as a means of achieving competitive advantage, and as a strategic tool for companies, was suggested early on (see e.g., Kotler & Rath, 1984). Over the years, several studies have suggested that investment in a company's design capabilities may have a positive impact on a company's financial performance (see e.g., Hertenstein et al., 2005; Lorenz, 1994), thus emphasising the importance of managers putting product design on their strategic agendas.

With a focus on the product's visual aesthetics, several reasons are suggested in the literature for companies' increased interest in design as an important dimension of their products. First, as consumer market structures change and the supply of products of a similar utilitarian value increases, the emotional and symbolic values of products brought about by product design are suggested to be increasingly relevant to consumer product choice (Bloch et al., 2003; Schmitt & Simonson, 1997). The literature suggests that, with an increasing variety of products of rather equal functionality, product design is also becoming more important in new industrial contexts, previously mainly driven by functional requirements (Cillo & Verona, 2008; Talke et al., 2009), e.g. high-tech industries. To avoid a possible commoditization of their products, companies are seeking to differentiate their products and to create recognition through unique product appearance. Also, superior product design is described in the literature as a way for companies to decrease their customers' price sensitivity (Lilien et al., 2010; Yamamoto & Lambert, 1994).

Such a competitive strategy is exemplified by kitchen appliance manufacturer Whirlpool, which states that "good design is profitable" and explains that it is able to charge more for products that have a good and unique design than for their previously launched products. To increase its focus on design, Whirlpool has hired a VP of Design who originates from carmaker Ford (Kuang, 2012). Also, Apple's successful product design strategy is described as "stoking consumer lust – and demand[ing] higher prices as a result" (Kuang, 2012), i.e. it provides another example of differentiation through product design.

1.1 Developing products where visual aesthetics are an important dimension

As described above, the literature presents a number of advantages to a strategic focus on product design, with several authors being of the opinion that the dimension of visual aesthetics in products may help a company to create commercial success, e.g. through differentiation and brand recognition (e.g., De Mozota, 2004). However, the development of new products using visual aesthetics as an important dimension is not without difficulty and may also lead to a number of managerial challenges.

First, when focusing on artistic values during new product development, underlying tensions between commercial and creative interests may appear. Tensions of different kinds, e.g. between contradictory demands or internal interests, are present in any organisation; it is argued that companies' long-term success is dependent on their ability to successfully balance inherent tensions within the organisation (Smith & Lewis, 2011), e.g. during new product development. Managers and designers in the furniture manufacturing industry, where the visual aesthetics of products are traditionally important, bear witness to the existence of such tensions, e.g. between different interests within the organisation:

> *You have to understand, there are lots of feelings and I'm the one who's slightly resistant, saying "No, we can't make another one of those products, we have to think commercially". Then they say "Oh that's a pity. That was nice, we wanted to do it". I answer them "Ok, how large is the potential market". You can tell - the company consists of people who really like what they're doing … and you have to do things that you like yourself ... otherwise it will be false. (Åke Jansson, CEO of Lammhults Möbel AB)*

> *There are always compromises. It's important not to agree on too much, running the risk of the product "dying". I've been through that several times. Sometimes, there's too much of a compromise in making the product conform to the company structure, their product range, so the product loses its soul. It's hard to realise, after a while, that you've given up too much ... because you wanted the product to come to market. (Roger Persson, Designer)*

Thus, as exemplified in the quotes above, there is a potential tension in companies' intentions to develop new products which are popular with customers but still preserve the company's creativity and innovative design. The literature remains ambiguous regarding how such conflicts of interest should be handled by managers. A number of authors (e.g., Bruce & Daly, 2007; Kotler & Rath, 1984;

Kristensen & Grönhaug, 2007; Olson, Cooper, & Slater, 1998) have suggested that product design should be closely aligned with the overall business strategy of a company. These authors are of the opinion that a company's marketing objectives should take precedence over a company's product design, i.e. that product design should be strictly led by the needs of the customer/market. In contrast, it is argued that (see, for example, Beverland, 2005, Hirschman 1983, Entwistle 2009), for some categories of products, e.g. artistic and artisanal products, market mechanisms may differ. Thus, for these products, it is suggested that product design should be shielded to some extent from business imperatives; it is even called into question (Digerfeldt-Månsson, 2009; Fillis, 2006) whether or not it is possible to rationally control the creative work of designers and still maintain a high level of creativity. Moreover, it is also argued that, for these products, the judgement and the definition of value regarding the product are more highly dependent on, and developed by, other actors than the customer, e.g. the mass media or peers (Entwistle, 2009; Hirschman, 1983). As a consequence, it is suggested (Beverland, 2005; Verganti, 2009) that designers should listen to less outspoken needs than formal market research on customers is able to provide by means of interacting with different "interpreters", e.g. suppliers, peers, researchers, and retailers in order to pick up information.

Relating to the above, the development of products wherein visual aesthetics are an important dimension requires designers with artistic skills (Utterback et al., 2006) and the sourcing of designers with such skills may be a challenge for companies which used to be driven by functional requirements. Also, a potentially tension-filled relationship between artistically-skilled designers and marketers, due to their different backgrounds and interests, is discussed in the literature. Here, it is argued that marketing often relies on a rational, scientific, and profit-based approach, whereas the designer relies on talent, creative skill, and intuition (Beverland, 2005). As a result, a designer, in contrast to the marketer, may sometimes seek a greater level of novelty and impact in his/her product design than the marketplace may be ready to accept (Bloch, 1995); thus, the relationship between marketers and designers may be a difficult one. On the other hand, conflicts and compromises between the differing ideals of designers, marketers, and other functions, e.g. production staff, may also enhance the overall outcome of the product design and the development process, leading to more successful products in the marketplace. In fact, conflicts may purify the design of a product by sorting out its defects and ultimately improving it (Bloch, 1995). Or, as Kristensen and Grönhaug (2007) put it, "the intellectual smartness of marketing and the artefact smartness of design can be united in a strong way". Moreover, the involvement of external expertise in any new

product development project may accentuate difficulties, e.g. in building productive and communicative relationships between individuals (Littler et al., 1995); thus, the engaging of external designers may complicate even more the relationship between designers and other functions.

1.2 Relevance of research

As described above, there is increased interest in industry using visual aesthetics as a strategic marketing tool, e.g. for product differentiation. As to theory, a general need for more attention to product design and its relationship with marketing in the academic literature, including new product development, has been pointed out in several recent studies (Luchs & Swan, 2011; Noble, 2011; Ravasi & Stigliani, 2012). Noble (2011) proposed a more strategic research agenda on product design and marketing than the existing "consumer-level" studies of how consumers respond to design elements in order to understand the relationship between product design and business strategy. Also, as noted by Luchs and Swan (2011), the lack of research into design in the marketing literature is surprising, given the importance, in marketing, of the "outcome" of the product design process, i.e. the designed product in terms of, for instance, "the Product" in Kotler's well-known marketing model of the "four Ps".

As mentioned above, a focus on the visual aesthetics dimension may be problematic during the development of new products when sourcing and cooperating with artistic designer resources and in the balance between commercial and creative interests. The sourcing of designer resources has been an issue in some previous research, e.g. in studies focusing on organisational issues such as the outsourcing decision, in various research contexts (Bruce & Morris, 1994; Bruce & Morris, 1998; Jevnaker, 1998a), on the nature of the relationship with the external designer (Bruce & Docherty, 1993), with a focus on the incorporation by SMEs of external resources (Berends et al., 2011). Still, as also pointed out by Dell'Era and Verganti (2010), little research has been conducted on collaborating with externally-sourced designers during new product development.

The practices of designers, marketers, and managers during new product development have been studied in a few recent quantitative studies, e.g. by Veryzer (2005) in a technological context with a focus on the development of discontinuous innovations and by (Zhang et al., 2011) in a study of Chinese companies from several industrial contexts with a focus on differences in how coordination is perceived. Moreover, the qualitative case study conducted by Goffin and Micheli (2010), in various industries, focuses on the cultural differences expressed in communication between designers and managers. However, there is still a lack of empirical studies

regarding how companies implement a design focus and how the tensions between different interests are handled in practice. In spite of a number of studies suggesting the existence of a design orientation (e.g., Beverland, 2005; Noble, 2011; Verganti, 2008), little research explains how companies become, and stay, successful when developing and delivering superior product design. Also, there is still a general lack of deep case studies of the cooperation between designers, marketers and managers, as has also been pointed out by Ravasi and Stigliani (2012); the few existing studies on design-oriented companies and their new product development (e.g., Dell'era & Verganti, 2009, 2010) are survey-based and need to be supplemented by comparative deep case studies in order to provide a deeper understanding of the development process.

1.3 Purpose and research questions

Based on the above background, the purpose of this thesis is to describe and analyse how companies develop new products using visual aesthetics as an important dimension. I have elected to study this research issue in the context of design products, defined as products wherein the visual aesthetics are a substantial dimension, but normally not the only one, i.e. they have an "aesthetic design" as defined by Charters (2006). Thus, these products are not developed in order to be purely aesthetic, e.g. art objects, but also include a functional dimension. The reason for selecting this empirical context is that the previously mentioned challenges facing companies, in their development of products using visual aesthetics as an important dimension, exist here. Three research questions have been derived from the overall purpose:

First, this thesis will describe and analyse new product development processes when companies are creating products using visual aesthetics as an important dimension. The description will be provided through generous case descriptions in the form of empirical stories, by which I mean a presentation as well as a synthesis of the involved actors' descriptions of the sequential accounts of events during the new product development projects under study. By presenting the different descriptions given by the actors involved, it becomes possible to present potentially different perspectives on the process. As discussed above, little empirical research still exists on how a company's focus on product design is manifested in practice, on a company's design capabilities, i.e. how it is able to design, and on how the balance between commercial and creative interests is handled (see e.g., Ravasi & Stigliani, 2012). Thus, the presented thick case descriptions using empirical stories are aimed at providing further insight into this issue as a contribution to previous research. Besides this empirical description, the special characteristics of developing new

products using visual aesthetics as an important dimension will be described and analysed. The focus will be on the critical, initial phases of new product development, i.e. from idea generation up until a product concept has been finalised, since the challenges described above forming the focus of this doctoral thesis, e.g. the tensions between designers and managers, are especially present during these phases. Also, these phases of new product development are often recognized as being problematic, e.g. due to technological and market uncertainty, but they are also a part of the development work showing great opportunity to improve a company's innovative capacity (Khurana & Rosenthal, 1998; Reid & De Brentani, 2004). Thus, the first research question is formulated as:

RQ1: What characterises the development processes of new products wherein visual aesthetics are an important dimension?

As a second research question, I will further describe and analyse how the balance between companies' commercial and creative imperatives is manifested in practice during the new product development process of products that have visual aesthetics as an important dimension. This tension is discussed in the literature as a problematic one; previous research has discussed the issue from different perspectives, as presented above. Still, the existing literature is not unambiguous as regards how this balance, e.g. during the generation and evaluation of new product ideas, is handled. While some authors (e.g., Bruce & Daly, 2007; Kotler & Rath, 1984; Kristensen & Grönhaug, 2007; Olson et al., 1998) argue that product design should be closely coordinated with marketing, others (e.g. Beverland, 2005) are of the opinion that product design should be shielded to some extent from business imperatives. Due to these contradictions, further empirical research on this research issue is deemed relevant. Thus, the second research question is formulated as:

RQ2: How do companies balance commercial and creative imperatives during the development of new products wherein visual aesthetics are an important dimension?

Third, I will describe and analyse manufacturers' sourcing and cooperation with designers during the development of new products wherein visual aesthetics are an important value. As mentioned above, one complexity of companies' development of visual aesthetics is how to source the necessary artistic design skills. The sourcing of designers may become a new challenge facing companies that used to be driven by functional requirements alone and may thus lack such artistic skills. The solution often lies in engaging external design resources instead of employing internal designers. Still, little attention is paid in the literature to companies' sourcing of, i.e. evaluation and contracting, externally-sourced designers during product

development projects. This conundrum has also been noted in the recent literature (Dell'Era & Verganti, 2010). Moreover, there is, as discussed above, a lack of empirical research on the suggested (e.g., Beverland, 2005; Bloch, 1995) conflicts of interest between the internal or external designer and other functions, e.g. marketers and managers.

RQ3: How do companies source and cooperate with design resources during the development of new products wherein visual aesthetics are an important dimension?

1.4 Outline of the thesis

This doctoral thesis consists of four research papers supplemented by a synthesising section which presents an important extension of the papers' empirical data together with an integrated synthesis and a discussion of the findings. The four appended papers provide the basis for answering the three research questions of this doctoral thesis. As presented in Table 1, two of the appended Papers (A and D) have been published in academic journals while the other two have been presented at refereed international conferences and included in the conference proceedings. I am the principal author of Papers A, B and C. In the work resulting from these three papers, I introduced the basic scientific ideas and was responsible for the discussions, analysis, and writing. Also, in the summarizing chapters of this doctoral thesis, of which I am the sole author, an important extension of the case descriptions from Paper C has been provided in the shape of empirical stories accompanying an extended empirical analysis.

Table 1.1: Overview over the included papers and their contribution

	Paper A	Paper B	Paper C	Paper D
Title	The interplay of Design and Marketing: A general model	The relationship between design sourcing strategies and the desired company brand image	New product development in design-led organizations. Insights from the Swedish furniture manufacturing industry	The Applicability of Integrated Solutions Offerings: Differential Effects of Product Complexity
Authors	Lindahl, I Nordin F	Lindahl, I	Lindahl, I Grundström, C	Nordin, F Lindahl, I Brege, S
Type	Journal article	Conference paper, presentation (refereed)	Conference paper, presentation (refereed)	Journal article
Publication status	Published in Irish Journal of Management 30(1) 2010	Earlier version published in the conference proceedings of the International Product Development Conference (IPDMC), Delft 2011	Published in the conference proceedings of the 12th International Design Management Research Conference DMI, Boston, 2012	Published in Journal of Relationship Marketing 12(1) 2013
Research approach	Multiple case study Interviews	Multiple case study Interviews	Multiple case study Interviews	Multiple case study Interviews
Links to research question	Main links to RQ2	Main links to RQ3	Main links to RQ1	Main links to overall purpose and empirical context

2 RESEARCH FRAME AND PREVIOUS RESEARCH

This section presents the theoretical background to this study, which will be the basis for answering the research questions. The previous literature on how the characteristics of products using visual aesthetics as an important dimension may affect companies' new product development will be explored and discussed, as will the literature's view of the strategic orientation of companies focusing on product design.

2.1 The different dimensions of design

As described earlier, this thesis is concerned with the development of design products. However, as numerous alternative definitions of the rather ambiguous word “design" exist (Luchs & Swan, 2011), the concept of the design product and its designers, as understood in this thesis, will be further elaborated upon below.

Often, the concept of design is not explicitly defined at all in published papers (Luchs & Swan, 2011), or the definitions provided are very broad, e.g. the definition of design as “the application of human creativity to a purpose" (Bruce & Bessant, 2002), which seems to mainly include all possible situations where design is involved. Still, the concept of “design” is context-dependent (Zetterlund, 2002), i.e. it tends to have different meanings in different industrial environments, making it difficult, or even impossible, and perhaps non-meaningful, to try and find a general definition of the concept. For example, design may be mainly related to engineering activities and product function (e.g. Kohli & Krishnamurti, 1987; Utterback et al., 2006), but it may also be regarded as inherently related to visual appearance (e.g. Bloch, 1995; Kaul & Rao, 1995) and artistic capabilities. Moreover, to make the concept of design even more complex, our understanding of the word “design” may either relate to the process of designing, e.g. as the “course of action for the development of an artefact or a system of artefacts; including the series of organisational activities required to achieve that development" (Gorb & Dumas, 1987), or the outcome of such a process, e.g. as “the function and form of a tangible good, service or both” (Luchs & Swan, 2011). In the latter case, the line between a product’s “form" and “function" is not necessarily strict, instead it overlaps (Utterback et al., 2006), i.e. a product's functionality most often depends on its form and vice versa. For instance, a comfortable and usable chair should have a form that enables us to sit on it.

Among all these possible interpretations of the design concept, this doctoral thesis mainly focuses on the visual aesthetic dimension of design, i.e. on the development of a product’s form and visual appearance rather than its function. A product’s design, in terms of form, may provide the user with different benefits. Bloch (2011) describes three such possible benefits, i.e. utilitarian, hedonic, and semiotic benefits, stating that the relative importance may depend on the individual. First, the *utilitarian*, i.e. the functional, instrumental, and practical (Chitturi et al. 2008) benefits make the product useful by being reliable, safe, and convenient (Bloch, 2011). Second, *hedonic* benefits are defined by Chitturi et al. (2008) as the "aesthetic, experiential, and enjoyment-related benefits" and described similarly by Hirschman and Holbrook (1982), who define hedonic consumption as "those facets of consumer behaviour that relate to the multisensory, fantasy and emotive aspects of one's

experience with products". Thus, according to these definitions, the aesthetic benefit is a part of the hedonic benefits. However, other authors see the definition of "hedonic" and "aesthetic" as interchangeable, which will also be the case in this thesis. Third and last, the *semiotic* benefits concern the sign value and "meaning" of a product design (van Rompay et al. 2009) which help users to identify a product's brand origins, category, purpose, and usage (Monö, 1997). Such symbolic meaning is becoming increasingly important in consumers' product decisions and brand impressions (van Rompay et al., 2009). The product's design may also communicate the brand origin of the "priming designer" which, besides the variables of price and product/manufacturer brand name, forms part of the foundation of consumer preferences (Gabrielsen et al. 2010). Further, Capetta et al. (2006) emphasize social compatibility, i.e. consumers seek to belong to and to be recognized as "an élite", and aesthetic compatibility, i.e. the search for a visual fit as a driver of stylistic convergence in the context of design products, in this case fine fashion.

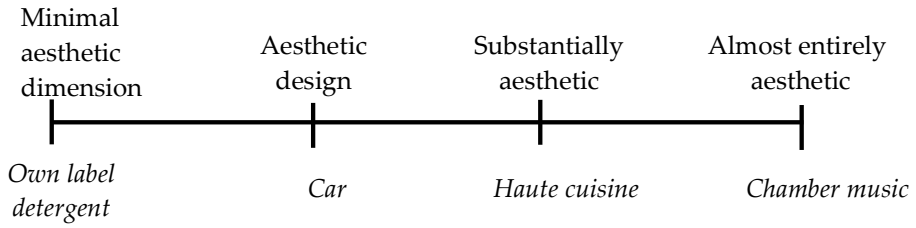

Figure 2.1: The relative importance of aesthetics in products (Charters, 2006)

It is further suggested (Charters, 2006) that the relative importance of these different benefits may vary with product type, i.e. while some products may have aesthetic benefit as their primary purpose, other products are essentially utilitarian and consider aesthetics to be a secondary purpose (Charters, 2006). In this view, products may be placed on a continuum that highlights the relative importance to the product of aesthetics (Figure 2.1). Hence, according to Charters (2006), an own brand detergent represents a product with a minimal aesthetic dimension, cars represent a product with an 'aesthetic design', haute cuisine is 'substantially aesthetic', and chamber music represents an almost entirely aesthetic product.

Apparently, design is a complex concept with many different meanings, e.g. depending on the industrial context; thus, it is necessary to specify interpretations whenever the word is used. Moreover, depending on the context and the type of product, product design may provide several different benefits of relatively differing

importance to the customer. Design products, as understood in this thesis, and using the continuum of Charters (2006) as presented above, have an aesthetic design, i.e. aesthetics constitute an important dimension over and above the utilitarian benefits; thus, both these dimensions have to be taken into account during their creation.

2.2 Sourcing design competence at companies

As discussed in the introductory chapter, a critical challenge facing managers when developing products using visual aesthetics as an important dimension is how the company is to achieve the necessary designer expertise. Basically, three options exists when leveraging the design competence of the company: building a company that has in-house design resources; employing external design resources; or a mixture of both practices (Jevnaker, 1998a).

2.2.1 The different characteristics and skills of a designer

One factor underlying the decision regarding how to source design expertise is the characteristics and skills of the designer. In parallel with the various, context-dependent understandings of the word "design", as discussed previously, designers are described in the literature as having several possible characteristics and roles depending on the industrial context of their work and/or the input provided (Utterback et al., 2006; Veryzer, 2005). Veryzer (2005) argues that the meaning of the word designer in the literature is, in fact, quite variable depending on the input, i.e. the expertise the designer provides. In other words, the word designer may describe an engineer adding functionality, technology or mechanics to a product but may also describe a designer who is mainly concerned with the appearance of the product. In line with this, Utterback et al. (2006) suggest that the different capabilities required of the designer activities may lean on more artistic capabilities or engineering-based capabilities and that design activities differ depending on the nature of the resulting product. While some goods are essentially "symbolic", other goods are mostly based on "materials" and, depending on the relative importance of these two different dimensions of the product, i.e. the different invested capabilities and the varied nature of the output, there are different types of design activities, as shown in Figure 2.2.

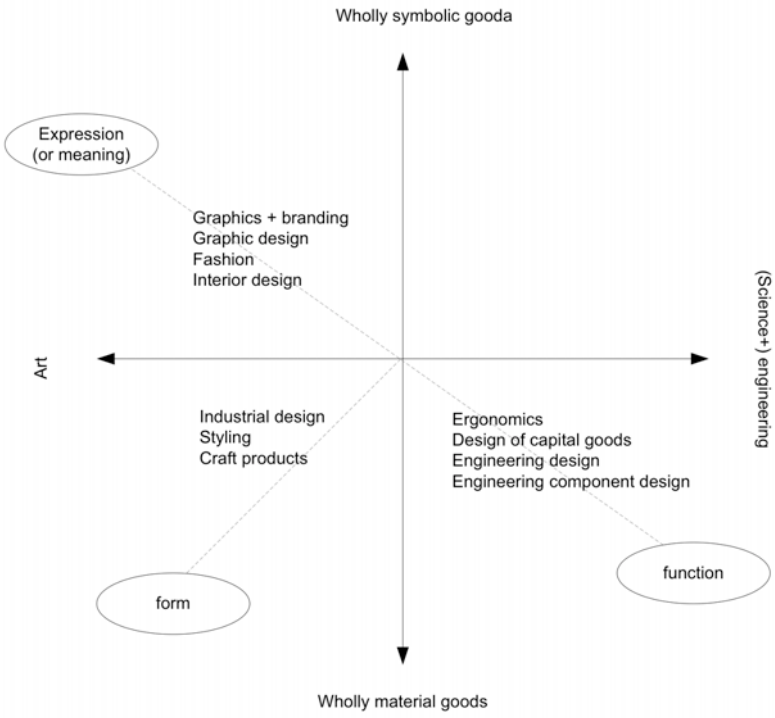

Figure 2.2: Engineering and artistic input of design activities (Utterback et al., 2006)

Utterback et al. (2006) propose that the aim of engineering design is to "define a mechanical structure, machine or system to perform specified functions with the maximum economy and efficiency". Fashion and interior design are, according to Utterback, related to symbolic goods and artistic input in order to create expression or meaning, while craft and industrial design are related to the creation of the form of wholly material goods. However, as noted by these authors themselves (Utterback et al. 2006), nearly all products are mixtures of these different elements, i.e. products most often have both a material and a symbolic dimension.

As discussed above, design products have a high degree of aesthetic value over and above their utility; thus, the designers of such products need skills not only when it comes to designing functionality, but also when it comes to creating a form that provides the customers with aesthetic value. Aesthetic value creation is often seen as related to artistic production; however, the literature sometimes seeks to separate the designer from the artist (Hirschman, 1983; Svengren Holm & Johansson,

2005). For example, it is suggested that whereas designers are connected with industrial processes and have economic constraints (Svengren Holm & Johansson, 2005), artists create something primarily in order to "express their subjective conceptions of beauty, emotion, or some other aesthetic ideal" (Hirschman, 1983). Furthermore, Hirschman (1983) posits the existence of "commercial" creators who create in order to satisfy the needs of a mass market in contrast to "self-oriented" creators who place their own evaluative criteria above those of the public at large and their peers. Such "self-oriented" creation requires aesthetic as well as intellectual conviction and may sometimes lead to products that satisfy only the preferences of the designer (Hirschman, 1983). Still, Hirschman (1983) points out, it is possible for self-oriented creators to be successful with larger audiences, although they primarily create with their own criteria in mind. In contrast, the highest priority among commercial creators is to fulfil the desires of the public at large, while considering the commercial success of their designs as the primary objective (Hirschman, 1983).

2.2.2 Sourcing of external design resources

As mentioned earlier, there is a general notion that companies are increasingly choosing to outsource their product design instead of employing internal designers and that a separate service sector of product design has emerged (Bruce & Morris, 1994), as with other knowledge-intensive activities such as R&D (Hsuan & Mahnke, 2011; Lewin et al., 2009; Manning et al., 2008). The reasons for outsourcing product design, besides a lack of in-house skills, are described as a general will to "maintain a flow of fresh ideas" (Walsh, 1996) that can supplement internal knowledge. Moreover, the consulted designer is to act as an "antenna" for interpreting "emerging phenomena" in favour of the innovation taking place at the manufacturer (Dell'era & Verganti, 2009). Designers may also act as "knowledge brokers", transferring knowledge between different industrial environments and different clients (Hargadon & Sutton, 1997), which may be of advantage to the purchasing company. Jevnaker (1998b), is of the opinion that the "creativity" brought to bear by independent design expertise as a result of this working across "sectoral or company boundaries" is a "core aspect of design". Yet another reason for outsourcing, besides the fact that designer expertise is most likely to lead to a well-designed object, is that the very name of the "priming designer", besides the variable price and brand name, is a part of the foundation of consumer preference (Gabrielsen et al., 2010). Thus, the choice of outsourcing may be based on the intention to cooperate with a specific designer who is not internally employed.

However, a general notion in the marketing and strategy literature is that the outsourcing of processes considered to be important to the competitiveness of the

outsourcing company also entails important risks, e.g. the potential loss of critical internal skills and capabilities. Accordingly, several frameworks for make-or-buy decisions suggest that activities considered strategically valuable for a company should instead be performed internally (Espino-Rodríguez & Padrón-Robaina, 2006; McIvor, 2000). Despite the strategic role that product design is recognised to have in companies, e.g. for differentiating products and the visual recognition of a company brand (see e.g., De Mozota, 2004; Karjalainen & Snelders, 2010; Talke et al., 2009), it is often outsourced. To explain this, it is suggested that a company's design skills could, in fact, be divided up into creative, i.e. actual design, skills and strategic skills in the management of design, with the latter preferably being kept in-house (Kristensen & Lojacono, 2002). In other words, the company's design capabilities do not consist of the creative design per se, but of the capability to use design; thus, companies may choose to outsource the creative design but still keep the strategic management of design in-house strategically (Jevnaker, 1998a; Kristensen & Lojacono, 2002). However, this reasoning in the literature builds on the assumption that the formulation of a strategy can be separated from its implementation, i.e. the creative design work in this case. In contrast to this assumption, Mintzberg (1990) argues that strategy and implementation are closely integrated and, thus, the interplay between strategic management and the implementers, e.g. designers, may be rather multi-faceted.

Besides the decision about whether or not to outsource product design, the manufacturer is also to decide how external collaboration will be organised, i.e. what designer(s) to engage and how collaboration is to be managed. First, the duration of the relationship may be either longer or shorter term and the closeness may be either "familiar", i.e. close, or at "arm's length", i.e. more distant (Bruce & Morris, 1998; Jevnaker, 1998b). Both risks and advantages exist in the different types of relationships. A close relationship may lead to better insight into the company's needs and, thus, to more suitable design solutions. Also, a long-term relationship may reduce the risk of the company losing proprietary knowledge and lead to trust and openness (Bruce & Morris, 1998). In close ties built on trust, i.e. a belief that one's exchange partner would put the partnership between the companies first and not personal interests, there is no need to calculate risks, as might be the case for exchanges in arm's length ties (Uzzi, 1997). In contrast, it is argued, a lack of trust between the collaborating partners may be harmful to the innovative capacity of the company, as it may hinder firms exchanging more tacit knowledge which is not easily defined and controlled in a contract (Maskell & Malmberg, 1999). This line of reasoning is supported by Hargadon and Sutton (1997) who suggest that information exchanges in close relationships of trust are more tacit, proprietary, and

“holistic" than in more distant market relationships. The reason for such an improved level of communication seems to be that close collaboration gives the involved companies opportunities to obtain a better understanding of the other parties.

Apparently, the literature offers many reasons for companies searching for design resources to enter into close collaboration or networks. However, besides these advantages, it is also argued that, by exceeding a certain level of embeddedness, relationships may have a negative impact on innovative capacity (Granovetter, 1985). Uzzi (1997) stresses that, by creating an overload of trust through close ties with the necessary “fit" between the exchange partners, companies’ overall ability to adapt to external changes may, in fact, be reduced and may instead lead to a common practice, i.e. an “established way" of doing things (Uzzi, 1997).This risk is also mentioned in the design management literature (Jevnaker, 1998a) where it is argued that a long-term and close relationship with an external designer may lead to "lock-in effects", i.e. less innovative ideas due to knowing the needs and wants of the buying company. Also, the possibility of creating a close relationship with a designer is dependent on the degree of "empathy" or "compatibility", something which, in the literature, is argued to be dependent on "personal chemistry" and the ability to "speak the same language" (Bruce & Docherty, 1993).

Besides the duration and closeness of the relationship discussed above, there are also other important aspects to the construction of a “designer portfolio” (Dell'era & Verganti, 2009), i.e. the intentional selection of a number of designers. First, the number of selected designers, i.e. the broadness of the portfolio, as well as the nationalities of the designers and the level of "multi-nationality", i.e. the number of different nationalities may have an impact on the innovative side, e.g. through product design, the capacity of the manufacturer (Dell'era & Verganti, 2009). Additionally, as mentioned earlier, the selection of a famous designer may affect the preferences of the customer (Gabrielsen et al., 2010); a designer's strong brand may affect the brand image of the manufacturer and even become its “core", i.e. what people identify as the company (Durgee, 2006; Zetterlund, 2002). In other words, the selection of a particular designer affects the product design in terms of appearance and utility but is also recognised as having an effect on the corporate brand of the company. In fact, the engagement of external, well-known designers, with their own personal brands, may be regarded as a type of co-branding and thus the two brands should be coordinated and integrated (Hestad, 2008).

2.3 The strategic orientation of companies focusing on product design

As discussed in the introductory chapter of this doctoral thesis, a critical issue facing companies in the creation of design products is how to balance commercial and creative imperatives during product development. One underlying factor influencing this balancing act is the company's strategic orientation specifying its managerial priorities and guiding its marketplace priorities (Noble et al. 2002) and, thus, affecting priorities, e.g. on the level of customer/market focus, during its new product development process (Trott, 2008).

Traditionally, the strategic orientation of a company, defined as its "organizational culture that will produce the necessary behaviours", in line with its strategic outlook (Narver & Slater, 1990), is described as either being market-oriented (which includes the two concepts of customer orientation and competitor orientation) or product-oriented. Customer-oriented companies first seek to ascertain the needs and desires of their customers and then they effectively produce products and services that satisfy these needs and desires (Berthon et al., 2004; Jaworski & Kohli, 1993; Narver & Slater, 1990). However, the concept has not been received without criticism and alternative suggestions. Narver and Slater (1990), for instance, argue that a company should not merely be concerned with addressing the customer's explicit needs and desires, i.e. being customer-oriented, but that it should also handle the needs that are implicit, i.e. being oriented towards the market. Jaworski et al. (2000) also emphasise this distinction between market- and customer-orientation, arguing further that there are two types of market-orientation: market-driven and market-driving. The former refers to a reactive marketing approach which accepts the market as a given while the latter is more proactive and includes attempts to change the composition of the market players. Despite their differences, customer-oriented and market-oriented companies are both (to varying degrees) customer-centric in their marketing activities, with this aspect of marketing possibly appearing natural and self-evident to most academics and practitioners today.

However, there are different opinions in the literature regarding the relationship between different orientations of a company's ability to innovate and develop new products. First, it is argued (Christensen, 1997; Person et al., 2008; Tauber, 1974) that market-orientation and, in particular, the customer-oriented marketing approach may, in fact, hamper the development of unique and innovative products and thus also the performance of companies. Market research can result in products that are safe and bland rather than challenging and creative (cf.Voss & Voss, 2000). In contrast, Lukas and Ferrell (2000) are of the opinion that a product-oriented approach may, compared to a more market-oriented approach, actually imperil the

level of innovation since such an orientation leads to a lack of knowledge of hidden customer needs. Thus, just as there are both merits and disadvantages to ignoring market demand and customer wishes (Christensen, 1997), there also seem to be perils attached to emphasising customer orientation to the detriment of product orientation. Related to this, it is suggested that the preferred strategic orientation is context-dependent (Day & Wensley, 1988; Fillis, 2006; Hirschman, 1983). For example, product-orientation may be suitable in hi-tech industries where new possibilities provided by new technology/functionality which "pushes" an innovation, and in the arts (Fillis, 2006), where the artist is not aiming to satisfy the mass-market but peers or the "self" instead, i.e. the artist aims to fulfil his/her own need for self-expression and, in doing so, builds on his/her recognition and reputation (Fillis, 2006; Hirschman, 1983). Also, in more discontinuous product development, i.e. innovations that "involve [a] dramatic departure from existent products or their logical extensions", it is suggested that the product development processes are more product-oriented than customer-focused (Veryzer, 1998).

It has been argued that none of the suggested orientations in the marketing strategy literature, i.e. market/customer- or product-orientation fully explains the nature of companies that focus on product design. (Noble, 2011). In order to better explain the nature of such companies, the alternative concept of design orientation has received attention in the recent literature (e.g., Beverland & Farrelly, 2007; Moll et al., 2007; Noble, 2011). Design orientation has been described in the literature as "a managerial strategic approach based on choosing design as a source of competitive advantage" and companies with such an orientation are described as "incorporating their design processes into their business strategy" (Moll et al., 2007). Moreover, Beverland and Farrelly (2007) suggest that, at companies with such a design-orientation, the brand and the design process are closely related and that these companies "view design as central to the companies´ strategic positioning". In other words, design-oriented companies are generally described as being able to advance design as a competitive advantage, with design being an integrated part of their business culture and brand. However, even though a number of researchers have suggested that companies may have a design orientation, little remains to be found regarding how these companies work in practice (Noble, 2011), e.g. how such a design-orientation is manifested during product development. Moreover, the literature does not explain whether or how the concept of design-orientation is related to, or separated from, a company's possible market-orientation or product-orientation, i.e. if the orientations are possible to combine or exclude.

However, related to the different possible strategic orientations, the literature presents a number of tensions resulting from different views within the company

regarding the importance of design. It is stated that one potential conflict may exist in the collaboration between marketing and design since marketing often relies on a rational, scientific, and profit-based approach, while the designer relies on talent, creative skill, and intuition (Beverland, 2005). Conflicts are also described in terms of being caused by differences in interests, educational background, values and attitudes or by the different use of language (Micheli et al., 2012; Svengren Holm & Johansson, 2005). As a consequence, it is argued, marketers strive towards objectivity, seeking to rely on consumer research into explicit needs and desires, while designers tend to base their creations more on the non-explicit needs of their customers and on studies of their behaviours (Svengren Holm & Johansson, 2005). Also, it is suggested that the marketers' lack of understanding regarding the purpose and value of design could contribute to these difficulties (Trueman & Jobber, 1998). As a result, a designer may sometimes seek a greater level of novelty and impact in his/her product design than the marketplace is willing to accept (Bloch, 1995). Thus, one organisational challenge facing all companies lies in coordinating marketing and design processes so that they can develop, produce and deliver products that are popular with customers, yet preserve their design identity and creativity.

A number of researchers have suggested how this coordination of marketing and design may be performed and, in particular, how design can be aligned with the overall business strategy of a company (e.g., Bruce & Daly, 2007; Kotler & Rath, 1984; Kristensen & Grönhaug, 2007; Olson et al., 1998). One suggestion is that a company's objectives should lead to a design strategy that decides how design resources are to be allocated and coordinated (Olson et al., 1998). The company's commercial objectives should, according to this view, take precedence over marketing activities and, subsequently, designer activities. However, other authors question the idea of adjusting the creative design process to suit the company's overall business strategy, with design increasingly being described as a creative asset, in its own right, of companies rather than simply a functional resource that may help to accomplish marketing objectives (Bruce & Daly, 2007). It is suggested that design should instead be understood from an artistic perspective (Digerfeldt-Månsson, 2009). Also in the marketing literature, Beverland (2005) argues that the creative process of design at companies making artistic/aesthetic products (in his study, winemakers) should not always be led by the pronounced needs of the market in these companies' product development, but should instead be shielded to some extent from business imperatives. Beverland (2005) further suggests what he calls 'loose-tight coupling', i.e. tight management of the end result, e.g. the desired strategic position in the market, but looser management of the means, i.e. the product design.

Apparently, the view presented in the literature of the most suitable way to coordinate the designer's activities with marketing is ambiguous. Different contexts outside, for instance, industrial contexts and inside the company may be one explanation for such differences in the literature. For example, coordination may be affected by the fact that the designer takes on several different roles depending on his/her expertise and interests in areas other than design (Perks et al., 2005; Veryzer, 2005; Zhang et al., 2011), i.e. the designer may be a functional specialist who purely concentrates on design issues, a key player on a multifunctional team working closely with other functions, or a new product development process leader who often develops marketing/business skills and is involved in the commercial aspects, e.g. business analysis.

2.4 The process of developing new design products

New product development has been described as "the process of transforming market opportunities into a product available for sale" (Krishnan & Ulrich, 2001) and there are several suggestions in the literature regarding how companies can successfully organize and manage their new product development processes (Cooper, 1990; Crawford & Di Benedetto, 2013; Trott, 2008; Ulrich & Eppinger, 2008). It is argued in the literature that new product development processes may vary, in terms of the included activities and their relative importance, with different orientations, e.g. a more marketing-oriented approach (e.g. Cooper, 1990) or a more engineering-based approach (e.g. Ulrich & Eppinger, 2008). Moreover, it is also argued that the new product development process can vary with the industrial context in which it is developed (Stamm, 2008) and when the innovation is more or less incremental, i.e. uses existing technology and targets existing markets, or when it is discontinuous, i.e. includes the development of new technological or commercial skills at the company (Reid & De Brentani, 2004) For example, it is suggested by Veryzer (1998) that the development of discontinuous new product development processes, characterized by uncertain market and technology conditions, does not follow the traditionally used "stage-gate-like" development processes (e.g. Cooper, 1990) since the different stages overlap and are less formalised.

As described in the introductory chapter, the focus of this doctoral thesis is the first part of a company's new project development work, i.e. activities whereby the company develops the product concept, reduces uncertainty regarding technological and market issues, and decides on the continued or non-continued development of the product idea. During these phases, the challenges facing the development of design products, as described earlier, e.g. possible tensions between designers and managers, are especially present. Also, these phases of new product development

are often recognized as problematic, e.g. due to technological and market uncertainty, but they are also a part of the development work with a major opportunity to improve a company's innovative capacity (Khurana & Rosenthal, 1998; Reid & De Brentani, 2004). This phase is recognized as a frequently problematic one containing a high degree of uncertainty, but it is also described as a part of the development work with a major opportunity to improve a company's innovative capacity, also being a key determinant in the high performance of companies (Cooper, 1988; Khurana & Rosenthal, 1998). The literature on the early stages of product development, in the context of design products wherein visual aesthetics are an important dimension, is scarce and the existing innovation research focuses on the technological and functional newness of products (Talke et al., 2009).

A number of authors have described the new product development process as a linear sequence of different stages spanning from the initial generation of a product idea to its launch. However, over time, it has also been suggested in the literature that the different stages should not be presented as sequential but as iterative, overlapping, and looping (Takeuchi & Nonaka, 1986). However, since a sequential presentation of the stages can be instructive and easy to use, the early stages of the new product development process will be described in terms of four stages in this thesis, i.e. new product strategy, idea generation, idea screening, and concept development and testing.

2.4.1 New product strategy

Formulating and communicating the company's new product strategy, which may or may not be explicit, is a part of early product development; it is argued that important decisions are made during this phase relating to, for example, target markets, value propositions, product costs, and product functionalities (Bonner et al., 2002; Smith & Reinertsen, 1998). Such decisions, for final embodiment in the product concept, will guide subsequent development activities since a product concept may become a ''moving target'' if senior managers do not communicate their strategic level expectations during front-end activities, or if the strategies are too abstract (Smith & Reinertsen, 1998). However, the "formulation - implementation dichotomy", i.e. the assumption that a strategy firstly needs to be formulated by strategists, i.e. managers, and secondly implemented by implementer(s) is also called into question in the literature. As the future implementation situation is not always known in advance, strategies may, in fact, be less viable and, in either an unstable environment or one that is "too complex to be comprehended in a single brain" (Mintzberg, 1990), the implementer becomes the "formulator" of the strategy, i.e. strategies emerge as the company learns (Mintzberg, 1990). It is also called into

question whether or not strategic control during the early phases of product development brings any positive effects at all (Poskela & Martinsuo, 2009), or may, in fact, hinder creativity and how this kind of control is best implemented. Additionally, Veryzer (1998) argues that the starting point for discontinuous innovation, i.e. innovations that are characterized by uncertain market and technology conditions, may be different, for example, in that the process is driven by a vision of a strong product champion and the "dynamic drifting" of possible technologies. In other words, for less continuous innovations, it is difficult to both formulate and implement a distinct product strategy. Instead, during such development, the early phases are characterized by experimentation and the evaluation of possibilities, e.g. by developing prototypes. Moreover, testing the concept and business assessment may, in fact, discourage major innovations as the market is not able to understand or appreciate such products (Veryzer, 1998).

A company's ability to manage its product design strategically, and to integrate design into existing company strategy, includes the skill to fit new design development into the existing business strategy and permits "out-of-the box discovery" and a strategic "stretch" (Jevnaker, 1998a). Thus, the company has two choices as regards achieving a "strategic fit", i.e. achieving a design that agrees with the competitive strategy of the company. One possibility lies in adapting the product design to fit the company strategy while the other naturally lies in revising the company's competitive strategy in order to create a fit with the (renewed) product design (Jevnaker, 1998a). Hence, a company's design philosophy should not be regarded as static; it should instead be revisable, e.g. as a result of a new innovative product design idea (Ravasi & Lojacono, 2005). It is also recognised that the product innovation process, including product design, might involve innovating both the product and the company brand, i.e. both the product design and the brand are mouldable and co-constructed during the product development process (Christiansen et al., 2009).

Related to the above, one stream in the marketing and product innovation literature further discusses the strategic choice between consistency and newness in the new product's visual appearance, i.e. whether a new product should look somewhat similar to existing products or whether it should deviate in order to gain more attention in the marketplace (see e.g., Karjalainen & Snelders, 2010; Person et al., 2008; Talke et al., 2009). Consistency in product design is recognised as leading to brand recognition, but it may also lead to products which potential customers find less interesting and, moreover, which gain less attention in, for example, the media (Karjalainen & Snelders, 2010). Consequently , according to Karjalainen and Snelders (2010), companies show rather different approaches to product design and product

portfolio strategies depending on their choice of which products to include in their market offerings. While some companies seem to aim for a more consistent product portfolio, with clear references to their brands, other companies that are still successful are more flexible, with their product design showing more implicit references to their brand values (Karjalainen & Snelders, 2010). Additionally, companies tend to manage this state of balance by launching a number of "flagship" or "lead" products which are more central to the company brand than others and which contribute more to visual recognition than others do (Kapferer, 2008; Karjalainen & Snelders, 2010). The choice of strategy, in terms of core design principles and the stylistic identity of the product, is connected with different aspects, e.g. the lifecycle stage of the product, the renewal cycle, brand position, portfolio width, brand heritage, and product history (Karjalainen & Snelders, 2010), as well as with the level of artistic ambition (Beverland, 2005). Moreover, possessing one product stimulates the desire to own other objects as consumers prefer to combine products, e.g. furniture groups, which are stylistically harmonious or which have a functional fit, e.g. kitchen appliances, into "ensembles" (Bloch, 1995).

2.4.2 Idea generation

Coming up with new product ideas is critical to any company's new product development. However, there is limited insight into the process of idea generation at companies, with the issue being recognised in the literature as an important area for future research (e.g. Schulze & Hoegl, 2008). Many different sources of product ideas are mentioned in the literature, e.g. existing products, technology, customers and vendors, sales forces, and competitors' products (Trott, 2008). Often, the identification of customer needs is described as the first activity in the stage of idea generation (e.g. Booz, 1982). However, the direct influence of market/customer opinions on a new product, via product research, may also be questionable and some would argue that such a practice may even prevent major inventions (Hamel & Prahalad, 1994; E. M. Tauber, 1975) as the potential users/customers are unable to fully appreciate radically new products due to not understanding or not being able to imagine the advantages (Veryzer, 1998). Consequently, for more radical or discontinuous innovations, companies may adopt a more explorative approach to new product development (Veryzer, 1998) i.e. one which is not initiated by commercialization activities, e.g. business opportunity assessments, but by understanding "the convergence of developing technologies, various contextual or environmental factors and the vision of a strong product champion" (Veryzer, 1998). Additionally, for such innovations, Veryzer (1998) means that idea generation may include the creation of a "formative" prototype which is used to "formulate and

explore" a possible application for a new technology. Moreover, radically innovative projects may include substantial technological and market uncertainty while being developed, with marketers generally being introduced later on during such projects when they are given the role of validating the "key assumptions and product application directions" (Veryzer, 2005).

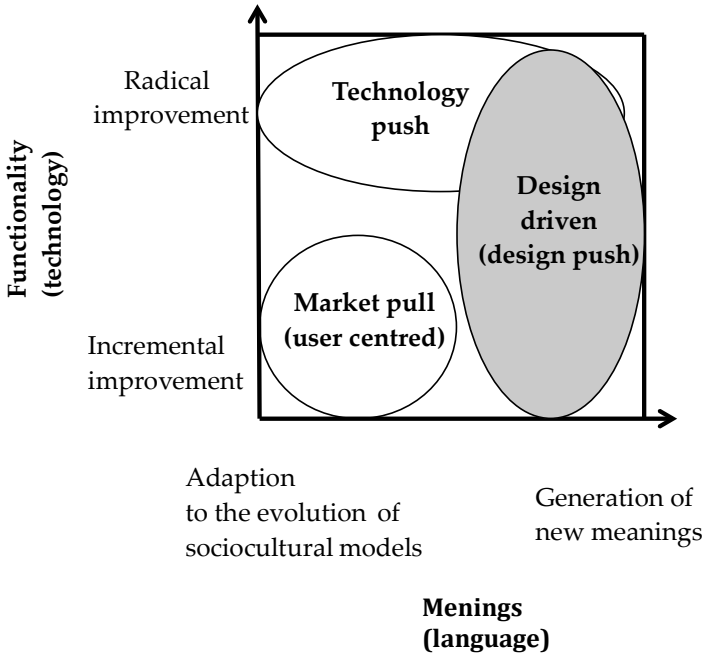

Figure 2.3 Innovation strategies (Verganti, 2008)

Verganti (2008) contrasts a "design-driven" (design push) innovation strategy with the strategies of "technology push" and "market pull" (Figure 2.3) and presents two dimensions of innovation: first, the meanings, i.e. the emotional and symbolic value of a product and; second the functionality. Verganti (2008) further means that innovation of these two dimensions may be either radical or incremental. Moreover, Verganti (2008) suggests that the innovation strategy for products radically innovating new meaning and design language, i.e. new emotional and symbolic value over and above new functionality and/or styling, should be "design driven" or use "design push" in contrast to less radical innovations where market demands should "pull" new innovations (Figure 2.3). Listening to market/customer needs

alone will not, thus, make it possible to generate any radical new meaning in terms of emotional and symbolic value, according to Verganti (2008). Instead, when generating design-driven innovation, understanding the evolution of culture and society is critical and best achieved by interacting with "external interpreters" of this evolution, e.g. the media, showrooms, designers, companies in other industries, schools, and artists that share the same interests Verganti (2008). Often, it is the designer who is given the important role of identifying and interpreting such future trends (Dell'Era et al., 2011). The general importance, i.e. not only for radical innovations, for manufacturers of design products to "be in the market", i.e. participating in fairs and meeting peers etc., instead of relying on market research into customer/market needs, is also suggested in the literature (Beverland, 2005).

2.4.3 Idea screening

During the new product development process, an evaluation of the different product ideas is made, i.e. idea screening. Idea screening is often described as a one-off activity; however, in reality, it occurs during all stages of the development process (Trott, 2008), i.e. there is constant ongoing evaluation of the business opportunities during the process of product development. The purpose of idea screening is to select the "best" ideas, i.e. "to predict the winner" (Cooper, 1979), potentially leading to success, and, on the other hand, the dropping of other ideas. This evaluation is described in the literature in terms of being performed on the basis of many different aspects, e.g. the manufacturer's commercial knowledge, experience, and technical knowhow and the product's suitability and estimated demand (Trott, 2008). The substantial screening of numerous different product ideas is described in the literature in terms of being critical activities for successful new product development (Barczak, 1995). However, it is also acknowledged that this process is difficult and that it is often performed on the basis of subjective estimates without any relative weighting of the different aspects leading to a decision (Cooper, 1979). Screening is described as involving market research, a technical feasibility check, and marketing feasibility tests (Trott, 2008). However, as previously mentioned, it is recognised that consumers may be unwilling to see the advantages of a radically new solution, e.g. as they see the potential cost of switching (Trott, 2008). Moreover, it might be difficult for consumers to understand and appreciate radical innovations (Veryzer, 1998); thus, marketing feasibility tests may occur instead at an even later stage for such products.

Little is to be found on the screening of products on the basis of their product design or on whether or not an important dimension of visual aesthetics affects practices during this phase. However, it is recognised that such evaluation may be

difficult and that the required knowledge is “embodied”, meaning that it often relates to a certain person and has to be acquired “on the job” (Entwistle, 2009) due to its tacit nature, i.e. it is explicit and may be hard to articulate to others (Polanyi, 1966). The literature also discusses what influences buyers in their perceptions of design value. First, it is suggested that, for products wherein visual aesthetics are an important dimension, a number of actors between the consumer and the producer influence the way buyers perceive and judge design innovations, e.g. the media (Cappetta et al., 2006) and design awards (Gemser & Wijnberg, 2002). In support of this, Cappetta et al. (2006) argue that "stylistic innovations”, i.e. innovations in terms of visual aesthetics, do not exist unless they are “perceived and used by a social community” and are dependent on communication as well as enough people’s adoption of the new language “to signal its belongingness to a specific reference group" as a new meaning is assigned. Entwistle (2009) is also of the opinion that the value of aesthetic products, e.g. in fashion, is generated as well as determined within the market itself by the individuals and institutions involved.

2.4.4 Concept development and testing

The development and testing stages of the concept are described as the place where products obtain their final form and become "tangible", from merely being a business opportunity, according to Trott (2008). During this stage, several prototypes are often developed and tested. Manufacturing issues will also be discussed and, according to the literature (Trott, 2008), this is the phase of technical development, e.g. engineering development, technology transfer, and cost forecasts. The results of concept development and testing will lead to product definitions that have to be clear and correct in order to avoid problems during later stages of new product development (Florén & Frishammar, 2012). The outcomes of this stage are product specifications on which companies’ go/no-go decisions to advance product development will be based (Khurana & Rosenthal, 1998).

2.5 Research framework for this doctoral thesis

To summarize, based on the research questions and on the discussion in the previous chapter, the framework for this doctoral thesis is presented in Figure 2.4. The overall focus of this doctoral thesis is, thus, the development of products that have an important dimension of visual aesthetics. The figure shows that right through the new product development process, there are both commercial and creative interests that sometimes create tensions in the development project.

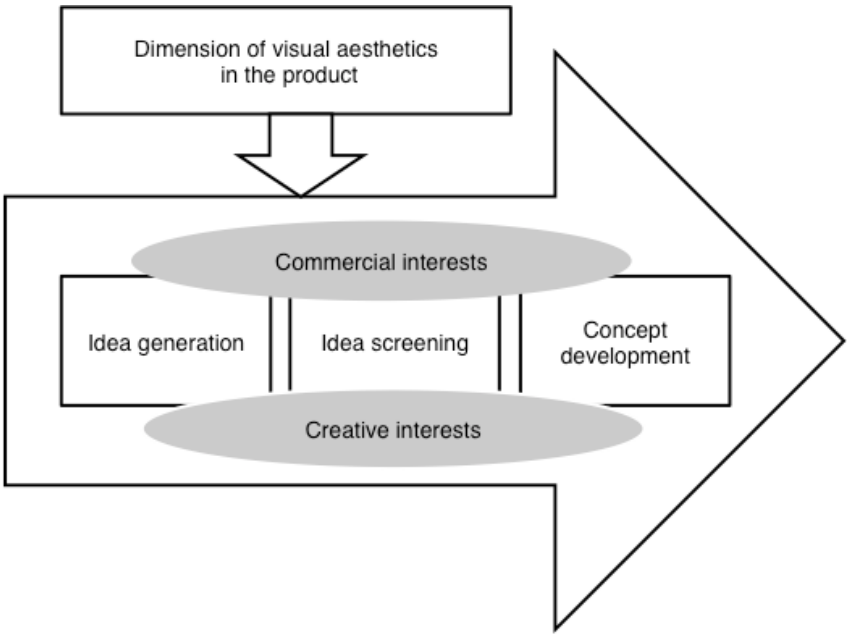

Figure 2.4 Research framework

The overall guiding hypothesis of this thesis, as is also displayed in Figure 2.4, is that a company's new product development and the balance between the different interests are influenced by the important dimension of products' visual aesthetics. Moreover, it is also assumed that such an influence is present during all the studied phases of the product development process, i.e. idea generation, idea screening, and concept development and testing.

3 METHODOLOGY

In this chapter, my overall research design, as well as its appropriateness as regards matching the purpose of this doctoral thesis, is presented and discussed. First, the choice of subject is discussed. Second, the reasons for and the relevance of my research approach, research design and data collection methods are presented and discussed. Last, there is an evaluation of the credibility of this doctoral thesis, discussed on the basis of the concepts of validity and reliability. More details on the research approaches of the different studies are also to be found in the appended papers.

3.1 Research approach

3.1.1 Choice of research subject

In April 2008, I joined the Lean Wood Engineering (LWE) research project, a collaboration between three universities (Luleå University of Technology, Linköping University, and Lund University) in collaboration with industrial partners from the wood and wood manufacturing industries and the building sector. The project is financed by Vinnova (the Swedish Governmental Agency for Innovation Systems) and a number of industrial partners. The idea behind LWE is to build a competence platform for developing innovation systems relating to wood manufacturing, i.e. the development of products, processes and business. Thus, as a consequence of the overall aim of LWE, one requirement regarding my selected research subject was that it should be related to: first, interior solutions of any kind and; second, business development.

Further, my choice of focusing on the furniture industry and design, besides being a personal interest, was the result of discussions with Professor Staffan Brege, the author of several research reports on business development in the furniture industry. Designer furniture manufacturers have been identified as a strategic group within the Swedish furniture manufacturing industry (Brege et al., 2001); however, so far, there is little research that further explores their business development. Thus, this context seemed to be suited to a doctoral thesis. The more specific research issue, i.e. possible challenges during the development of products that have visual aesthetics as an important dimension, is problem-oriented rather than theory-oriented (Lawrence, 1992) and arises from discussions with my supervisors and my initial meetings with managers from the furniture industry where the challenges of developing design products were being discussed. Also, my professional background as a business development manager in the telecom and media industry made it possible for me to see some interesting characteristics in their new product development processes in this (for me) new industrial context which I wanted to study further.

As noted by Van de Ven (2007), it is not possible to reflect all the different perspectives of a research problem; thus, it should be clear what view and interests are being served when the representation of the reality is presented. In this doctoral thesis, the research is aimed at taking the point of view of the Swedish furniture manufacturers. Further, it takes on a managerial viewpoint, meaning that other potential viewpoints, e.g. those of workers or public entities, take a back seat.

3.1.2 An explorative and explanatory study

This doctoral thesis builds theory on the new product development of products that have visual aesthetics as an important dimension in the research fields of marketing and new product development. It uses an explorative and explanatory approach, i.e. the aim is to draw conclusions not only in terms of "how" new product development is practiced but also "why" this happens; it also includes further study of two selected aspects of product development work. The explorative and explanatory approach is motivated by the lack of studies on the same research issue, as discussed in Chapter 1. Theory building always involves 1) conceiving or creation 2) construction or elaboration 3) justifying or evaluating a new theory (Van de Ven, 2007). Naturally, not all research projects focus on all three stages; in this research project, the focus will be on Stages 1 and 2., i.e. this doctoral thesis focuses on the creation and elaboration of new theory.

3.1.3 Abductive research approach

In this doctoral thesis, theory is created using an abductive approach. Such an approach entails; firstly, an anomaly or something that is inconsistent with our "understanding of the world" is created/discovered, secondly, this idea is further developed and elaborated using a deductive logic, and, thirdly, it is tested using inductive interferences (Van de Ven, 2007). In other words, the process alternates between empirical findings and existing theory, both of which are continuously being "reinterpreted" (Alvesson & Sköldberg, 1994). The process is further described in the next chapter.

The initial framework leading to this doctoral thesis was rather loose, and the research process has not been linear. Instead, the framework can be described as evolving; it has "developed according to what is discovered through the empirical fieldwork, as well as through analysis and interpretation" (Dubois & Gadde, 2002). Loose and tight initial research frameworks both have their advantages and disadvantages (Miles & Huberman, 1994). While a tight framework may lead to the researcher missing out important features, a loose framework may lead to the collection of too much, and also irrelevant, data (Miles & Huberman, 1994). My choice of a loose framework made it possible to address different aspects of my overall research issue emerging as important during discussions with managers. Moreover, using the format of a compilation thesis made it possible to address different aspects of the overall research issue in the different papers, finally synthesising all findings in the summarizing chapters.

Also, as suggested by Van de Ven (2007), the focus, level and scope of a problem domain often becomes clearer over time, when familiarity emerges due to involving the relevant stakeholders, in this case the managers of the studied companies. Thus, the research problem needs to be grounded before the framework can be made clearer. As I did not have any previous experience of the furniture industry, I felt it was important to use a less defined initial framework in order to be able to adjust the research project as I increased my understanding of the industry's mechanisms.

During the research project, there was systematic combination (Dubois & Gadde, 2002), i.e. during the project, the research question and the theoretical framework developed and were reinterpreted due to the relevant findings of my empirical studies. The research project was thus allowed to drill down into more detailed issues.

3.2 The research process

An overview of the research process is presented in Figure 3.1. The first stage of the research process included a choice of empirical context and overall research issue, based on the requirements of the LWE project, my personal interests, and an initial literature study resulting in an overview of previous research into marketing in the context of the furniture manufacturing industry. A broadly-defined research framework was presented on the basis of an analysis of the mentioned input. The first research paper, Paper D, was based on results from a previous research project (Study 1), in which my co-author participated. The aim of this project was to explore whether or not furniture manufacturers, coming from a low-tech industry, were offering solutions-type offerings; the overall finding was that such solutions did indeed frequently exist at the studied companies. The results were published in a Master's thesis (Garpheden, 2008). However, within this project, no further analysis was performed of the companies' underlying reasons for offering such solutions. Thus, as a continuation of the former project, the research purpose of my first paper was to further describe and explain this existence of solutions-type offerings.

Besides the final conclusions, which were presented in Paper D, the first observed "anomaly"(Van de Ven, 2007) in companies' development of design products, and the interplay between product design and marketing, was discovered during the analysis I made leading to Paper D. It was indicated in the interviews that furniture manufacturers have rather different approaches to design and marketing, i.e. more or less self-centred design and more or less market-oriented marketing. This anomaly was further elaborated on by studying the existing literature, further framing the research question, and identifying a number of critical aspects for further exploration due to the lack of previous research. To explore and further

elaborate on the anomaly, new empirical studies were deemed relevant. This led to the aim of Paper A, i.e. further explaining companies' different approaches to design and marketing and how their different practices could be combined within one company. The empirical basis of this paper was the empirical data from Study 1, together with a number of supplementary interviews (Study 2) which I conducted with my new research question in focus. The findings and conclusions from this study are further described in Paper A.

To gain a deeper understanding of the relationship between companies' product design and marketing, and how this relationship manifests itself in practice during new product development, a third study (Study 3) was performed with a focus on organisations' sourcing of design resources, something which was a critical issue according to the respondents. One important finding during this study, further described in Paper B, was that companies frequently tend to engage external designers and that there is a potential relationship between the designer portfolio and the overall product strategy. In order to gain a deeper insight into companies' product development, and collaborations with these involved designers in practice, yet another case study (Study 4) was performed. Here, an extended study was performed of managers' and designers' activities and roles during the process of designing new products. The findings and conclusions are presented in Paper C, as well as in the summarising chapters of this doctoral thesis.

Finally, existing theories on new product development and design management were used to elaborate on and explain the empirical findings from the different studies and, lastly, to construct new theory, as presented in the summarising chapters of this doctoral thesis.

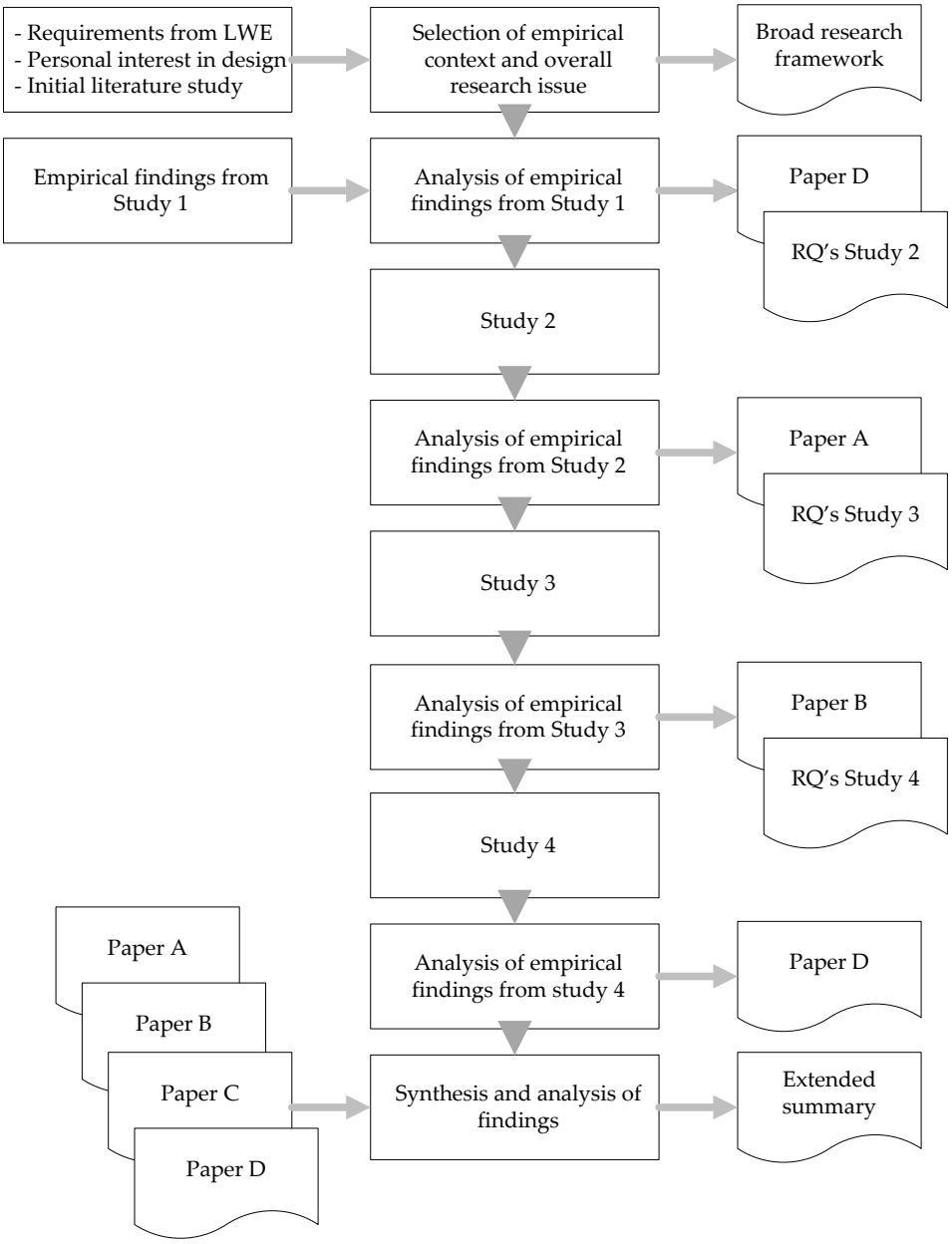

Figure 3.1 Research process

3.3 Case study methodology

This research extends existing theory using case study research. Such an approach has three outstanding strengths, according to Benbasat (1987), strengths which were deemed important in this doctoral thesis: first, the research issue can be studied in the natural setting where relevant theory can be generated from observations of the actual practice; second, the approach allows the meaningful question "why" to be posed, besides asking what and how, and; third, the approach is suitable in exploratory studies that have unknown variables and where the phenomenon is not understood.

According to Yin (2003), the choice of research strategy depends on three factors: the research question, the researcher's control over "behavioural elements", and whether the research focuses on contemporary or historical events. I believe that all the above-mentioned rationales for using the case study approach suggested by Yin (2003) have been fulfilled in this doctoral thesis. First, as described above, the thesis has an exploratory as well as an explanatory approach, i.e. it is asked "how" events take place but also "why" a certain event takes place as it does. These approaches are justified by the lack of studies on the development of design products and, consequently, there is a need to explore the development process, as well as further explain it - on the basis of the empirical findings of this study, and by making parallels with findings and conclusions in the literature from other contexts. Second, the level of control over the research setting in this doctoral thesis is slight - the events take place without any interference on the part of the researcher and it would be difficult to change the course of events. Third, the research in this doctoral thesis focuses on recent events and not on historical data. Moreover, a case study strategy focuses on studying and understanding a selected setting, in this case companies manufacturing design products, and its dynamics (Eisenhardt, 1989).

3.3.1 Selection of cases and respondents

As described above, four different case studies were conducted during this doctoral thesis project. The selection of the overall research context, i.e. the furniture manufacturing industry, was based, as previously mentioned, on the requirements of the LWE research project, i.e. that the research context should be manufacturers of interior solutions, preferably in wood, together with my personal interest in furniture and design. The cases were selected using theoretical sampling, i.e. they were chosen in order to "discover categories and their properties" and to "suggest interrelations into a theory", rather than for statistical reasons (Glaser & Strauss, 1967). I selected cases where the events I was interested in studying were easily

observable and the findings were likely to either replicate or extend existing theories.

As argued in the literature (e.g. Dyer Jr & Wilkins, 1991), a critical trade-off in case study research occurs between deep insights and comparative insights, i.e. by electing to study several cases, it is possible to gain comparative insights and possibly also less depth. I have chosen a multiple case approach for all the performed studies, albeit with a different number of cases in the different studies. My first two studies containing several different cases led to more comparative insights, while the last study supplemented these overall findings with deeper insights into two selected companies' differing development processes. However, as five different projects were studied at these two companies, it was still possible to gain comparative insights into the different processes. While the first studies addressed the overall research issue of this thesis from a broader perspective, and led to a better overall industrial insight, the last study helps in terms of further exploring and explaining the research issue.

Table 3.1: The units of analysis and respondents in the different studies

Study	Unit of analysis (case)	Respondents
Study 1	Furniture manufacturers	Managers
Study 2	Furniture manufacturers Car manufacturer	Managers
Study 3	Designer furniture manufacturers	Managers
Study 4	New product development projects at designer furniture manufacturers	Managers and designers

The units of analysis are related to the defined research questions in the different studies, as suggested by Yin (2003); thus, they differ somewhat between the various case studies (Table 3.1). In case Study 1, when I was not involved in the selection of cases, the unit of analysis was the furniture manufacturers. In Study 2, in which I was partly involved in the selection of cases and which focused on the interplay between design and marketing at companies, the unit of analysis was still the furniture manufacturers (supplemented by one case from the car industry). The cases were intentionally selected with the research question in mind, and as possible representatives of different combinations of design and marketing. Study 3 focused on the sourcing of design resources at design-oriented companies and the selection

of cases was narrowed down to designer furniture manufacturers in order to easily observe the research issue in focus. Here, the aim of the last case study, Study 4, was to further explore and explain the development of new design products; consequently, the unit of analysis was refocused and narrowed down to the project level. By selecting two companies and more than one project at each company, it was possible to gain contextual insight, not only on the industry level but also on the project level. The development projects were selected on the basis of 1) the manufacturer being a designer furniture manufacturer and 2) the product being a design product. Another criterion for selection was that the companies were well-established and well-known brands. Moreover, I also searched for organisations that were slightly different in terms of size, ownership, and company history. Additionally, since my research interest was product development and potential peculiarities when developing design products, I selected companies and designers that were willing to share information about these issues, as was the case for both *Lammhults Möbel* and *Karl Andersson & Söner*. The product development processes were selected by the managers of these companies on condition that the products and processes should differ in terms of product type and that the designers should not be the same. Moreover, the development work had to be recent to enable the respondents to remember and describe the events. The respondents selected the products after being informed of my research interest and my wish to study cases recently finished and not too similar, e.g. in terms of the resulting product type. As a natural consequence of my intention to study the collaboration between the designer and the manufacturer when engaging in their new product development practices, I also interviewed a number of designers. This is recommended by Alvesson (2011) who emphasises the importance of obtaining the perspectives of different actors as this makes it possible to study the similarities and differences in the stories. Table 3.2 presents the studied furniture manufacturers.

Table 3.2 The studied designer furniture manufacturers

Company	Turnover (MSEK) 2012	Employees 2012	Activities	In papers. No of interviews
Blå Station	43	12	Manufacturer of furniture for office interiors, e.g. sofas, tables and stools.	Papers A and B 3
EFG	533	186	Manufacturer of workstation furniture and office furniture, e.g. office chairs, tables and storage.	Papers A and D 4
Ire Möbel	24	23	Manufacturer of furniture for home interiors, e.g. sofas and armchairs.	Papers A and D 3
Johanson Design	91	44	Manufacturer of furniture for office interiors, e.g. sofas, chairs, stools, armchairs and tables.	Paper D 1
Karl Andersson & Söner	29	35	Manufacturer of furniture for home and office interiors, e.g. chairs, tables and storage.	Papers B and C 3
Kinnarps	2,203	202	Manufacturer of workstation furniture and office furniture, e.g. office chairs, tables and storage.	Papers A and D 2
Källemo	19	11	Manufacturer of furniture for home and office interiors, e.g. sofas, chairs, stools, armchairs, tables etc.	Paper A 2
Lammhults Möbel	174	81	Manufacturer of furniture for home and office interiors, e.g. sofas, chairs, stools, armchairs and tables.	Papers A, B, C, and D 6
Materia	141	73	Manufacturer of furniture for office interiors, e.g. sofas, chairs, stools, armchairs and tables.	Papers B and D 2
Mitab	33	28	Manufacturer of furniture for office interiors, e.g. sofas, chairs, stools, armchairs and tables.	Paper B 1
Norrgavel	45	19	Manufacturer of furniture for home interiors, e.g. sofas, tables and storage.	Papers A and D 2
Swedese	154	100	Manufacturer of home and office interiors, e.g. sofas, chairs, stools, armchairs, and tables.	Paper B 1

3.4 Data collection and analysis

The overall process for data collection and analysis is described in Figure 3.2 and described in further detail later on in this chapter.

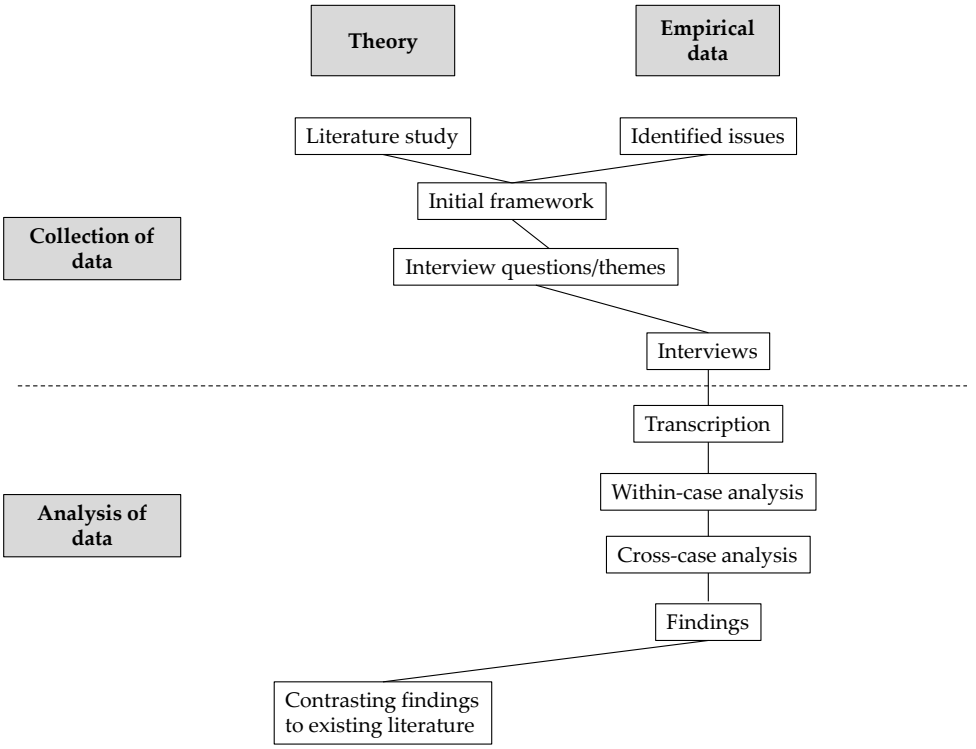

Figure 3.2 Data collection and analysis

The starting point for the research processes in the different studies, as described above, were the issues identified, i.e. the "anomalies" (Van De Ven & Johnson, 2006) in the literature and in the empirical data. On the basis of these issues, the purpose and the interview questions or themes were formulated. Next, the interviews were performed and transcribed, followed by analysis within and across the different cases. Finally, the findings were contrasted with the existing literature.

3.4.1 Data collection

The main method of data collection in this doctoral thesis is interviews, in addition to some studies of written documentation on the studied companies and the industrial context. Interviews as a method are discussed in the literature in terms of being "deceptively simple" (Kvale, 1997), i.e. it might seem simple to ask questions without much planning or consideration. Thus, much preparation and reflection is needed before and after the interview in order to obtain useable data through the interview. A number of precautions were taken in order to be rigorous during the data collection. First, the visits were carefully planned in order to avoid visiting a number of companies without a clear purpose. Also, in order to obtain useable data, I prepared the questions well, e.g. by means of literature studies on the research issue and the industrial context. The interviews were recorded and, in parallel, I wrote down ideas, e.g. on possible themes, that occurred to me while they were in progress. After the interviews, I quickly wrote down my initial thoughts, which proved useful during the subsequent analysis work. I also transcribed the recordings, in detail, as soon as possible after they were made in order to avoid forgetting my impressions. Doing transcriptions after each interview enabled me to adjust my initial questions if new or interesting themes appeared, or if some themes appeared less interesting.

In total, 30 interviews with different furniture manufacturers were conducted (Table 3.2). Each interview lasted between 30 minutes and 2 hours. The interviews in Studies 2, and 3 were semi-open, i.e. the theme and the research issue were rather well defined and some questions were carefully formulated in advance while others came up during the interview, as a natural continuation or clarification of the respondent's reasoning. Here, one interview was conducted per company and study. In Study 4, I used a more open interview approach whereby I asked the respondents to tell their "stories" regarding the conducted product development project in focus, on the basis of the different product development stages. However, I also formulated questions seeking clarification or depth during the interviews whenever necessary. The interviews were more instrumental, i.e. they closely followed the questionnaire at the beginning of the research project; however, later on in the process, I allowed myself to be a bit more personal and conversational. The advantage of this is that the stories told by the interviewees were more personal and open in the final project; however, at the same time, I risked influencing the stories more and receiving data that was not useful during the analysis. However, I believe that such a conversational approach leads to broader knowledge of the respondent's situation, which is useful during the analysis work.

I did not participate in the interviews in Study 1, leading to paper D, of which I am a co-author. However, the interviews conducted during this project had been transcribed in detail; it was thus possible for me to understand and further analyse the empirical material. Also, as my co-author was participating in the interviews, I was able to discuss the findings with him whenever some empirical data was unclear. Moreover, I also believe that since I had not participated in the interviews, I was able to offer new perspectives on the empirical data during our discussions in the course of the analysis work. The findings and conclusions from this study are further described in Paper D.

Besides the interviews, I also studied the existing literature on the companies under study and on the historical development and current situation of the furniture manufacturing industry. In doing so, I developed a better understanding of the background and current situation of the companies, and their industrial context.

3.4.2 Data analysis

The data analysis regarding the different studies is also described in the appended papers. As mentioned above, the interviews were recorded and transcribed in detail afterwards. By using such detailed transcription, it is easier to quote directly from the material; moreover, it was also easier to avoid the initial selection of what to transcribe being based on my own preconceived ideas, as suggested by Alvesson (2011). The transcribed interviews were carefully read and analysed several times in order to find themes that corresponded with the initial research questions. The themes were entered as coding nodes in the subsequent analysis of the material. Additionally, the identification of themes and the subsequent coding were performed and re-performed several times in order to find the most suitable patterns. Coding the transcribed interviews, on the basis of the themes found, was done using the Nvivo8 software for qualitative data analysis. This facilitated within-case and cross-case analysis and made an iterative process possible, i.e. coding was performed but also, whenever necessary, revised during the process when new empirical data was collected.

Somewhat differently, in the fourth study, leading to Paper C, the different process stages of product development were used as the basis for analysis. First, a within-case analysis was performed whereby the stories told by the different respondents during the interviews were condensed and structured into the various stages of the new product development processes. Writing such detailed case descriptions is one way of becoming familiar with the case and providing the reader with a thick description (Eisenhardt, 1989). A comparative analysis of the different respondents' descriptions was performed, using structured tables and Nvivo8 as an

administrative tool. Also, by collecting information on the same themes from different sources, data was triangulated (Yin, 2003) . Second, a cross-case analysis was performed on the basis of the different projects and their courses of events. Here, the product development processes in the different cases were compared similarly to the within-case analysis, with similarities and differences being identified on the basis of the interviews conducted. Moreover, comparisons were also performed in order to find contrasts/similarities between the designers' different descriptions of the different processes and, similarly, of the managers'. Last, the findings were contrasted with the existing literature and the differences and similarities between the "traditional" process description and the actual empirical data were analysed.

Additionally, in order to provide an answer to the first research question of this thesis, the product development processes are presented via detailed empirical stories wherein the different respondents' stories about events/processes are combined into one story per project. In doing so, the presentation of data is kept close to the interviews and many quotations are presented in order to avoid losing the respondents' initial wordings and intentions. However, as previously mentioned, the events during the processes are presented in chronological order even though the stories were not always told in such a structured way.

3.5 Quality assessment

Two criteria are relevant to assessing the quality of the research designs of case study research – reliability and validity (Yin, 2003). Reliability in qualitative research means that, if another researcher replicates the study, then similar findings and conclusions will be obtained (Yin, 2003). Validity is concerned with whether the selected research instruments actually measure what they are supposed to (Yin, 2003) and whether the results are described as valid when the researcher has investigated what he/she intended to.

3.5.1 Validity

Construct validity is concerned with whether or not the selected research instruments measure what they are intended to measure (Yin, 2003). Some measures were taken in order to improve the construct validity of this doctoral thesis. Due to the nature of the research issue, and for practical reasons, it was difficult to use documentation or observation as an alternative source of evidence; thus, triangulation via the collection of different types of data was not possible. However, open-ended and semi-structured interviews were conducted in order to increase the construct validity. Also, a large number of respondents with different functions, e.g.

CEO, product development managers, and designers, were interviewed on the same issues, leading to data triangulation, as suggested by Yin (2003).

Internal validity is concerned with causal relationships, i.e. whether or not the researcher's conclusions regarding how different events are related are correct. In this thesis, the internal validity of the papers was improved by revision based on the comments and critiques of experts in the relevant research areas at peer-reviewed conferences. Also, the validity of Papers A and D was improved by publishing them in peer-reviewed journals when they were revised on the basis of comments made by reviewers. I have also presented the data from the case studies close to the actual answers of the respondents in order to enable the reader to judge the validity of my conclusions.

Concerning external validity, I agree with Yin (2003), who writes that the mode of generalization in a case study is analytical, i.e. replication can be claimed if a study's empirical results clearly support existing theory. Yin (2003) states that, in contrast to quantitative settings, statistical generalization should not be conducted using qualitative case study findings. The conclusions of this doctoral thesis compare the empirical findings with existing theory, with similarities as well as differences being analysed and presented. Moreover, when analysing the different practices of my study objects, and when constructing frameworks, my aim has been to understand and present the different contextual or situational variables that affect my findings. Earlier on in this chapter, I described my choice of research context and its characteristics. Hence, by using these descriptions, my aim is to support the reader's own judgements regarding whether or not and how the results of this doctoral thesis might be valid in other contexts.

However, I believe that the choice of context, i.e. the product development of designer furniture, may make it difficult to generalise to, for example, high-tech industries where visual aesthetics are also becoming more and more important over and above the functional aspect (Talke et al., 2009). Even if there are similarities between the different industrial contexts and the developed products, e.g. the fact that, besides the aesthetic dimension, there is also a functional dimension to products, there are also some important differences, for instance in terms of how the aesthetic value is evaluated and valued through the media and design awards. However, the results are probably also valid for other firms in a design product industrial context, e.g. fashion or art glass, even though such generalisations remain untested. Moreover, as a result of the existing industrial structure of the furniture manufacturing industry, the companies in the case studies are, with a few exceptions, SMEs. Thus, generalising the presented conclusions to larger companies

where the organisations, e.g. the product design and marketing functions, are larger and more complex, also needs to be tested.

3.5.2 Reliability

In order to improve the reliability of this doctoral study, certain measures were taken. All the procedures, e.g. interview guides, are well documented. All the interviews were recorded and transcribed carefully afterwards. In order to keep track of the data, all the transcriptions were entered into Nvivo8, where they are easily accessible to those wanting to understand the methods and findings in order to replicate the study. Additionally, the analysis, i.e. the identified key themes or identified stages of new product development, together with corresponding passages in the interviews, has been documented in Nvivo8, making it possible to review my line of thought. Moreover, in this chapter, I have tried to be explicit in my description of my research design and methods, thus making the process as transparent as possible.

4 THE INDUSTRIAL CONTEXT AND THE STUDIED CASES

In this section, information is provided on the industrial context of this thesis, i.e. the Swedish furniture manufacturing industry. The characteristics of the studied manufacturers and designers are also presented, in addition to empirical findings from the new product development projects studied.

4.1 The historical development of the Swedish furniture industry

The Swedish furniture manufacturing industry has a long tradition. An excellent supply of raw material, e.g. wood, created good conditions for the small-scale carpentry businesses, employing skilled labour, which slowly coalesced into today's industry. In fact, even today, Sweden's most important regional clusters of furniture manufacturing are in Skåne, Småland and Västergötland, where the supply of wood was the best once (Arwidson, 2006).

For a long period of time, the furniture manufacturers did not pay any particular attention to design or to trends in today's sense. Even though the furniture manufacturing industry can be included in the "art industries", with the ceramics, textile, and glass industries (Frick, 1986), evolving from crafts and folklore, the status of the "artist" has, according to (Frick, 1986), been weak compared to other art industries. Instead, there was an early focus on rationalizing operations and it was not until the late 30's that parts of the Swedish furniture industry started to collaborate with recognized designers. Rather, the innovation that existed in the furniture industry during these early times consisted of copying competitors' products and models seen at overseas fairs and exhibitions (Arwidson, 2006), with furniture design being based on purchased blueprints or stolen ideas (Frick, 1986). One reason for this lack of collaboration was, naturally, the cost associated with hiring outside designers (Frick 1986). Early exceptions from the generally low emphasis on design were constituted by companies that had a designer who was an owner or family member, e.g. Bruno Mathsson in his family-run business and Carl Malmsten (Arwidson 2006; Frick 1986). It was not until the 50's that the importance of the broad design concept generally grew.

During the late 60's and 70's, a lot of changes occurred in the furniture industry. Furniture sales had been doing well in Sweden and there was a lot of innovation and experimentation by new, young designers who were trying out new materials, e.g. cardboard and plastic (Arwidson 2006). Arwidson is of the opinion that "Sweden" per se was a strong brand, with representatives such as ABBA, Volvo, Bjorn Borg, etc. The furniture industry benefitted from this positive wave and Sweden's furniture exports increased from SEK 225 M in 1970 to SEK 1,500 M in 1980 (Arwidson 2006).

However, many furniture manufacturers carried on operating as traditional, anonymous companies and they had enough business to do so, even without experimenting with product design. The home furniture market in Sweden was strongly dominated by large, strong retail chains such as *Mio, EM, Svenska Hem*, and *IKEA* (Arwidson 2006), while the export market was, and still is, hard for small

actors to penetrate. This resulted in many companies striving towards developing and selling office furniture in order to escape the large and powerful furniture chains that were focusing on consumer sales. In 2001, a study of Sweden's furniture manufacturers, by Brege et al. (2001), showed that only 12% of the responding companies had engaged external designers. Instead, product design decisions made at furniture manufacturing companies were still being dominated by the large and powerful furniture chains mentioned above. According to Frick (1986), the major furniture-retailing chains showed little interest in investing in design skills at their sub-suppliers, instead developing internal design skills and leaving the furniture manufacturers to produce purely in accordance with the ordered product design.

4.2 Sweden's designer furniture manufacturers today

Today, a small number of Swedish furniture manufacturers have chosen to focus on innovative furniture design as their main competitive advantage. At these companies, corporate brands are closely related to product design. Basically, these companies may be divided into two groups on the basis of the differing main skills of their founders. For one group of companies, e.g. *Karl Andersson & Söner*, the founder's main skills lay in production and not product design, with the focus on design being introduced at a later stage. For these companies, as was the case at *Karl Andersson & Söner*, the focus on designer furniture results from a long tradition whereby the importance of the design value of products, as described above, has grown along with the furniture industry per se developing towards a more design-intensive industry. In contrast, at other companies basing themselves on production skills, e.g. *Mitab*, the focus on design was a strategy introduced or intensified much later on and based upon an intention to differentiate products and find a unique position on the furniture market by offering products of an innovative design and, in doing so, getting away from price-based competition. As an example, at *Mitab*, the intention to become a "design company" was strengthened when a new generation took over this family-owned business and realized there was a need to change and renew in order to survive or further develop. At the other main group of companies, including, for example, *Materia* and *Blå Station*, the company's focus on design was the result of the founders' own design skills in combination with an intention to produce furniture they had designed themselves.

The designer furniture market presents several possible alternative sales channels between the manufacturer and its customers (Figure 4.1). Moreover, for B2B sales, an important influence is exerted by interior designers as possible intermediaries and/or influencers of the end customers' purchasing decisions. As a first alternative, the manufacturer may offer and sell the products directly to the end customer,

sometimes (for export sales) through a contracted independent sales agent. Here, the end customer often chooses to engage an independent interior designer who designs the total interior solution and who, in these cases, also suggests what furniture should be included. The second alternative is for the end customers to buy their furniture from a retailer. In this situation, too, the end customer may have engaged an interior designer, either independently or as part of the offer made by the furniture retailer. Moreover, retailers may also recommend a particular interior designer to the end customers, but these may choose not to engage/employ such expertise themselves. As a consequence of the above-described alternative channels, the manufacturer sometimes offers the same furniture to the end customers both directly and indirectly, i.e. through the retailer, and sometimes does so without knowing. Another consequence is that the interior designer's suggestions to his/her end customer about what furniture to include might be "overruled" by new furniture suggestions from the subsequently-contacted retailer, who might have a vested interest, e.g. due to discounts, in suggesting a competitor's product instead. This situation may also occur if the retailer knows that he/she is competing with other retailers, thus seeking to suggest a unique or less costly solution.

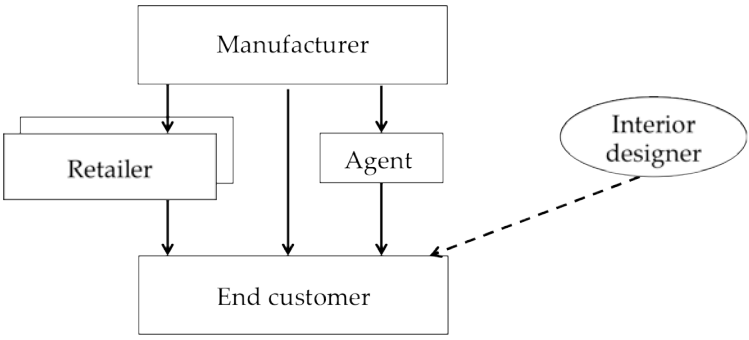

Figure 4.1 Sales channels on the designer furniture market.

To summarise, the furniture market is complex and there is a dependence between the manufacturers and the interior designers but also with retailers. Following, the manufacturers need to market their products to the interior designers besides end customers and the retailers.

4.3 Karl Andersson & Söner

Karl Andersson & Söner is a family company wholly-owned by Ingvar Wadskog (grandchild of the founder Karl Andersson) and his three children Maria, Sara and Andreas, who is the CEO. Today, the three children manage the company and Ingvar Wadskog holds no formal position, even though he is still quite involved with the company. According to Andreas Wadskog, *Karl Andersson & Söner's* overall business objective is to be profitable, not necessarily to expand. As he puts it, however, slightly laughing: *"It's better to be small and do well"*. When visiting the company, it is impossible not to be struck by the familiar environment and the influence the family exert on the management of the company. Andreas Wadskog says that a lot of discussions and decisions occur in the hallway, or at the dinner table. During the interviews, it is obvious that his father's competence and experience from wood processing are still important to the company. The company had 35 employees in 2012, and a turnover of SEK 29 M the same year. It is located in Huskvarna in southern Sweden.

Karl Andersson & Söner was founded in 1898 and has been owned and managed, apart from for a few years during a generational shift, by the same family all the time. The company was founded by carpenter and cabinet-maker Karl Andersson, who was an artisan producing furniture for everyday use in Berghem, a small village between Gränna and Huskvarna in Sweden. The first major order, which was the starting point for the company's mass production of furniture, was placed by a merchant called Widman from Stockholm. This order was for chairs in batches of fifty – a huge number at the time (Boman, 1998).

The company realised the importance of product design early on and it has a long history of working with external design resources. The youngest of Karl Andersson's sons, Göran Malmwall, was trained in furniture design by Carl Malmsten in the 1940's, and the company collaborated with Carl Malmsten on some pieces of furniture. However, the company was designing most of its furniture internally at that time as it was quite unusual, generally speaking, for furniture manufacturing companies to engage external designers; only a few major furniture manufacturers had permanently employed designers. Rather, in the few cases where designers were working with furniture design, it was the designer himself who founded his own manufacturing company. Some examples of this situation from that time include Karl Erik Ekselius, whose company was JOC, and Yngve Ekström, whose company was Swedese. However, in the 50's, Danish furniture design was in vogue and thus the company contacted a number of Danish designers (among others Hans Wegner and Finn Juhl) to ask about their interest in collaborating. The designer Børge Mogensen was interested, after carefully inspecting the production facilities.

This collaboration turned out to be a successful milestone in the history of *Karl Andersson & Söner*. By engaging Mogensen to design the *Öresund* product line (still in production at the company), the company established its own design profile as early on as the 50's. It was something of a "revolution" at the company that an external designer was allowed to create a uniform product line for the company, thus influencing the product range. The earlier collaboration with Carl Malmsten was just, according to Boman (1998), an "ennobling of the popular design" which, otherwise, mostly consisted of "solid, traditional, genuine and anonymously designed" pine furniture. It was when Mogensen came into the picture that the furniture changed in nature from craft to design. In parallel with Börje Mogensen, Göran Malmwall was designing furniture and there was collaboration around several pieces of Malmsten's furniture, e.g. *Visingsö* and *Vapensmeden*. However, it was mentioned that Börje Mogensen took a tough stance as regards not exhibiting any other furniture than his at furniture fairs, and that he came prepared with detailed and finalised drawings. Collaboration with Mogensen ended in 1968 (Boman, 1998).

After that, during the late 60's and 70's, Göran Malmwall designed several series of dean furniture, in vogue at that time. Production included, among others, the KA72 series, which is still in production and still being sold, according to Ingvar Wadskog, in "decent volumes". During the 80's, a number of external designers came into the picture, e.g. Björn Hultén. When Andreas Wadskog returned to the company, several external designers were engaged and the company's product range today involves 38 different designers.

About one third of *Karl Andersson & Söner's* sales today go to retailers while the rest are divided equally between interior design companies and designers. About 20% of the company's total turnover is exported, mostly to Finland, Norway and Denmark, but also to more distant countries like Japan and the US. The ratio between home and office furniture sales is 1/3 to 2/3. Outside Sweden, the products are sold via agents that have several different suppliers in their portfolios. A problem that has been mentioned which relates to sales via agents is not being the agent's "main brand" and thus not getting enough attention. In Sweden, *Karl Andersson & Söner* has been exhibiting for the last 50 years at *Studio B3* in Stockholm, along with 14-15 other companies, and in Gothenburg at a similar studio for the last 10 years.

The company markets itself to interior designers. The interior designer is an important actor as it is he/she who suggests an interior solution that includes all the furniture to the end customer. However, the actual sale to the customer is most often conducted via *Karl Andersson & Söner's* furniture resellers or firms offering total interior solutions, e.g. *Input*, *Kinnarps*, and *SENAB*. Here, Andreas Wadskog

mentions that, due to the multiple sales channels to the same business end customer, *Karl Andersson & Söner* sometimes gets more than one request for a quotation from different resellers representing the same business customer.

One challenge when exporting *Karl Andersson & Söner's* furniture is that the company brand has much less of a reputation outside Sweden. It is, according to Andreas Wadskog, difficult to gain the trust of potential customers without a well-known brand; thus, it is difficult to introduce new products. *Karl Andersson & Söner* exhibits at the Milan furniture fair and believes this to be important; however, more in the long-term as a brand-building activity. By being represented at this international fair for several years, the company will become more established and well-known outside Sweden, something which it hopes will lead to new business. However, today, Andreas Wadskog thinks it is less important than previously for a furniture manufacturer to be able to say that it is, in fact, represented at the fair since this kind of representation has become more and more common. Exporting and being represented at overseas fairs affect product development, says Andreas Wadskog, since overseas demand is taken into account during new product development but also due to the overseas designers contacting *Karl Andersson & Söner* as a result of its representation at these fairs.

Product strategy

When Andreas Wadskog and his sister Sara entered the company at the turn of the millennium, there was a clear "generational shift", even though their father Ingvar Wadskog is still very involved in the company. This generational shift also leads to changes in company strategy, and to a clearer focus on being a "designer furniture company".

According to Andreas Wadskog, *Karl Andersson & Söner* has been more active in product development over these last 10 years than at any time in the company's history. After entering the company actively, Sara and Andreas Wadskog soon realized that *Karl Andersson & Söner's* existing product range was, as Andreas puts it, "*a little weak and old*". Ingvar and Andreas Wadskog say that they considered the appointment of Andreas as the CEO of *Karl Andersson & Söner* as an opportunity to change this situation. Andreas Wadskog says that they actually set themselves a goal: "*in ten years, we're going to be one of the five best-known designer furniture companies in Sweden*". And in the interview, they both agree upon being, in 2011, at least one of the ten best-known and one of the ten most "*exciting [companies], or the ones you think of when you talk about design furniture*".

Between 2004 and 2007, the company's turnover increased significantly, something which, according to *Karl Andersson & Söner*, was a consequence of its new

product introductions and its focus on designer products. Without this change, says Andreas Wadskog, the company would not have existed today. However, he and Ingvar emphasize that it is not only the new products per se but also the working logistics and marketing activities surrounding them that account for the growth and success.

Even though *Karl Andersson & Söner's* core competence is still related to the manufacturing of wooden furniture, and most of its products are made of wood, there have also been, since the close of the 20th century, elements of steel in the furniture. One of the cases examined in this study describes the product development of Steelo, which is made from extruded metal and fabric or leather. Obviously, the company has moved quite a long way from the original cabinet making of Karl Andersson. *Karl Andersson & Söner's* facilities and resources allow it to handle all its production of wooden furniture in-house; thus, only few products are made externally. The company's facilities also give it the necessary flexibility to offer customized solutions if the demand exists. It has also started to make products using other materials than wood in-house, e.g. felt and "compact laminate", in response to market demand.

They say that creative function and form, as well as materials, are important when it comes to competing with imported products. Trends are generally important, e.g. customer preferences for types of wood. New products are important and are always asked for by both customers and the media, e.g. during furniture fairs.

Besides functionality, they look for *"something extra - the little twist"* and this is, according to Andreas Wadskog, the reason why they have engaged so many different external designers. It is hard, in his opinion, to find this "*twist*" by sending out product briefs and he also feels that this is not *Karl Andersson & Söner's* area of expertise, but where the unique creativity of the designers comes into it in order to suggest "*the hidden gems you are searching for*". They have to find these gems and pick them one by one. He believes that other furniture manufacturers send out more briefs than *Karl Andersson & Söner* do, and that the firm is very much involved in product development largely due to the fact that it has most of its production in-house.

There is no exact strategy regarding how many products *Karl Andersson & Söner* develops each year. In 2011, Andreas Wadskog suggested that the level was "*too high*" at as much as seven products a year as "*everybody has to keep up*", i.e. production, purchasing and marketing have to be able to handle the new products. Often, the problem does not lie, according to Andreas Wadskog, *"in producing the product but in selling it, introducing it to the market"*. The time up until new products break through is described as varied, at least historically. Some products are

successful right after being exhibited at furniture fairs, while others take a long time, sometimes up to five years.

There is a general product plan at the company regarding what products are needed, what products are already in the product range etc., but it is noted that there are lots of changes due to "opportunities" and "gems" being sent in to the company: *"Oh, we didn't think of this or that was something completely new"*, exemplifies Andreas Wadskog and continues:

> *You mustn't be a slave to your plan, you mustn't be stupid. And then...maybe you'll have one more idea and one more, and then the result is five new products!*

There is also some development of existing products and, overall, Andreas Wadskog describes a large level of flexibility in the company's planning. Overall, 50% of our products are *ad hoc* and the rest are in accordance with the product plan.

The decisions regarding new products are described as discussions within the company in which the different functions are involved. However, Andreas Wadskog points to the difficulty of presenting a product during an early phase to the sales people as it may be hard for them to understand how the final product will turn out. Therefore, it is often Andreas Wadskog himself who decides. He says that they do not carry out any market research, instead making products they like themselves:

> *We want to make products that are beautiful and nice. That's the fun part. To have a reference group...in the end there is so much thinking that everything is just diluted instead of finding this "twist" we're searching for. If we like it ourselves, then we hope that many others will do so too.*

Andreas Wadskog thus has confidence in both his and the rest of the company's expertise in judging good design. There is no regular dialogue via the retailers regarding possible volumes or market interest during product development. The retailers do not even reveal who the potential customer is when asking for a quotation; thus, it is difficult to get information about the end customers. Moreover, Andreas Wadskog also says that competitors' products are important, but not so that the company to be influenced but in order to avoid getting too close to these competitors' product design solutions. There is an agreement with the designers regarding their responsibility to not suggest solutions resembling competitors' products too much.

However, customer demand is still important, naturally, and there is a desire to satisfy customer requirements in terms of size or material adjustments to their standard products. Also, it is important, according to Andreas Wadskog, to provide a broad product range with regard to the buying behaviour of *Karl Andersson &*

Söner's customers. When the designers contact them to discuss a potential product solution, it is important to be able to suggest several different alternatives. He says:

> *It's hard to offer a product range without gaps, but it's important to have a broad offering in order to address your customers' various needs...shapes, images, styles...and price levels, maybe. So I think it's necessary to have that. Sometimes, I feel, when you get these phone calls, that we actually don't have anything to meet their needs.*

The brand and its importance

Karl Andersson & Söner hosts brands on two levels. First, the company's name is communicated and, second, the product name. On top of this, the engaged designer's name is communicated, thus also affecting the other two levels. In brand communication, it is often the product name first, the designer name second, and the company name beneath. *Karl Andersson & Söner* says that it is concerned about not being too closely associated with a certain designer, but that it should be possible to see that it is *Karl Andersson& Söner's* furniture. *"Of course, we work with a large number of different designers, but there is still continuity in our product design".* Also, *Karl Andersson & Söner* says that it puts the *"design before the designer"*, i.e. the product design is more important than promoting a certain designer, and that it does not seek attention through its choice of designer.

It also believes that its long tradition of producing furniture is important for the company brand. However, it believes that this might be even more important outside Sweden than within Sweden. Andreas Wadskog quotes his customers: *"Oh, you're so old! You have a history!"* The long history of the company creates a trust which the customers value. Moreover, when exporting, it is important to show that you have had successful collaborations with well-known designers, in this case, in particular, the designer Börge Mogensen.

When questioned about the importance of the company brand and its recognition, Andreas Wadskog states that it is important to *"position the brand in the head of the interior designer"*, meaning that you must be in the interior designer's thoughts once he/she starts searching for a product, e.g. a table or a shelf. However, he is of the opinion that, after this initial selection of supplier, it is the product range and the unique product that decides whether or not the interior designer will buy something and not the brand itself. In other words, brand positioning is important, with differentiation being achieved through the product range and the product design. The brand image and the positioning in people's minds form the starting point for sales as this will make the designer search for possible product designs within the range. Moreover, the possibility of doing one-stop-shopping, i.e. finding a range of

furniture with the same supplier, e.g. finding the same colour woods may be important, according to Andreas Wadskog. It is mentioned that interior designers are seldom loyal customers, instead searching for novelties and changes when creating their solutions. Thus, even if the supplier provides good products, it is unsure whether or not the interior designer will be a regular customer for a long time. One important marketing activity mentioned is inviting interior designers and companies to visit production facilities.

4.4 Lammhults Möbel AB

Lammhults Möbel AB is a wholly-owned affiliate of *Lammhults Design Group*, which is listed on the OMX Nordic Exchange's Nordic Small Cap list. The largest shareholder is Scapa Capital which holds 25.8% of its stock. *Lammhults Möbel* had 81 employees in 2012 and a turnover during the same year of SEK 174 M. Thus, compared to other Swedish designer furniture manufacturers, *Lammhults* is one of the largest.

Åke Jansson was the CEO at *Lammhults* between 2008 and 2012, i.e. at the time of the empirical studies leading to this doctoral thesis. Åke Jansson has a professional background which includes being CEO of *Abstracta*, another furniture manufacturer within the *Lammhults Design Group*, between 2004 and 2008. Before that, he held leading posts in the printing industry and at electronic equipment manufacturers. Åke Jansson has no background as a designer, he trained as a construction engineer and he also has an MBA. In 2012, Åke Jansson was replaced at *Lammhults Möbel* by designer Lars Bülow, founder of the designer furniture company *Materia*. Lars Bülow is since 2012 the Brand and Design Director at the *Lammhults Design Group* and thus involved in the company's design and branding activities on the group level. When Lars Bülow was appointed CEO, Åke Jansson left the *Lammhults Design Group*.

The starting point for *Lammhults Möbel* was in 1945 when Edvin Ståhl and his brother-in-law, Adolf Andersson, founded *Lammhults Mekaniska Verkstad*, a manufacturer of oil burners and mountings for the local furniture industry. However, the first furniture - a stackable steel pipe chair - was manufactured as early as in 1955 (Zetterlund, 1998). In 1965, the nephew of Edvin Ståhl entered the company. At that time, *Lammhults Mekaniska's* construction of a line of designer furniture was initiated via collaboration with Börge Lindau and Bo Lindekranz - a collaboration that continued for more than twenty years. Lindau and Lindekranz were never employed by *Lammhults*, instead also being engaged by other firms, e.g. *Orrefors*. The two designers had a large network, which was useful for *Lammhults* at that time (Zetterlund, 2002). However, the company's furniture had already been recognized and they had been given interior design assignments before this

collaboration. According to Zetterlund (1998), it was the material - the metal - and the "designers' integrity" that became the early characteristics of *Lammhults*. The well-received S70 product line (which won an award at the Stockholm Furniture Fair in 2012) was launched in 1968.

The same year, the company changed its name to *Lammhults Möbel AB* and this was, according to Zetterlund (1998), an indication of the definitive change into a design company. *Lammhults* was already aware of the importance of design and its management. During the 90's, *Lammhults Möbel AB* won an award for its design management with the justification "consistent management of the visual identity". In 1986, when collaboration with Lindau/Lindekranz ended, *Lammhults* sought collaboration with new designers, turning to Danish designer duo Peter Hiort-Lorenzen and Johannes Foersom, and to Love Arbén. The company also initiated a year of workshops for a number of selected newly graduated designers, after which programme participant Gunilla Allard joined *Lammhults Möbel* as a freelance designer. Second, in 1999, Anya Sebton was engaged. These carefully selected designers still work with *Lammhults Möbel* on a regular basis. In 2011, collaboration was initiated with designer Andreas Störiko, which is further described in the Volo case in this doctoral thesis. To summarize, only a few selected designers have collaborated with *Lammhults Möbel* over the years, leading to these designers having a close relationship with the company and being an important part of the design strategy of *Lammhults Möbel*. Designer Anya Sebton, who was interviewed during the study featured in this doctoral thesis, tells of the very conscious strategy of *Lammhults Möbel* when introducing and "developing" her brand in relation to, and in synergy with, *Lammhults Möbel's*. According to Anya Sebton, after designing products for *Lammhults Möbel* that were commercially successful, she was asked by the CEO at that time to design a more "designed and brand reinforcing" product, to build on her own brand.

Lammhults Möbel's ownership structure changed when it became a part of the *Rörviksgruppen* group which, in 1997, was divided into *Rörvik Timber* and *R-vik industrigrupp* (including *Lammhults Möbel*). In 1999, *Rörvik Industrigrupp* acquired the company *Expanda AB*, including *Abstracta* (furniture) and *Skaga* (glasses). *R-vik Industrigrupp* later changed its name to *Expanda* and has focused entirely on design companies. In 2008, the group changed its name to *Lammhults Design Group*, building on the strong brand that *Lammhults* constitutes.

Product strategy

According to Åke Jansson, *Lammhults Möbel* is heading towards a more market-driven product strategy whereby market position should be the driver of the

introduction of new products. However, this is a long-term process, according to Åke Jansson. *Lammhults Möbel* is trying to become less of a design arena, and more driven by market needs. However, defining market "value" and "needs" is difficult, explains Åke Jansson, also saying that it is difficult to know what "is important" to the customer when it comes to *Lammhults Möbel's* products.

> *Is it the good contact we have with our specifiers, that they like what we're doing, that's important and makes us popular? Or, is it the fact that we maintain a high level of quality, that it's safe to specify our products, that you know when including it in the interior solution that the customer will be satisfied with the product for many years to come. That you know that nobody will say - "What crap are you suggesting here, it will break" etc. That it's safe and secure, that we deliver on time, that everything works - is that what's important? It's probably a mix of everything, but still. It's always good to know what's important.*

Åke Jansson still believes that the "style" of the products originating from *Lammhults Möbel* is critical and that the furniture has to communicate, *"What is Lammhults Möbel"*. The company has chosen to work with just a few external designers for a long time as its way of creating and keeping this style, to be consistent in terms of design. Per-Evert Johnsson says, further, that each designer contributes his/her own design identity to the overall *Lammhults Möbel* style and that the designers' own design identities are communicated by their furniture. However, he is of the opinion that it is time to include a few new designers, but that these need to be "*introduced*" carefully to the *Lammhults Möbel* style, by studying existent products and the *"Lammhults Möbel heritage*". He says that it is difficult to *"communicate the same style through new design"* and that it takes very competent designers to deal with this challenge. He is of the opinion that it is very important to create, keep, and communicate a distinct style and that it would be risky to be peeking at successful competitors. He says that both *Lammhults Möbel* and designer companies in general need to have self-confidence. However, he also thinks that they should follow on if somebody else enters a market which is new to them, and offer the "*Lammhults Möbel* solution", i.e. furniture in the *Lammhults Möbel* style, to that market. He makes a parallel with cars:

> *If you look at a BMW, who drives it, and who drives a Mercedes. We sell these pieces of furniture, as long as they have a clear style it works out, whereas they sell cars to their customers... So the distinctness when you communicate a style is really important.*

Åke Jansson says that there are different product categories; some products lead to volume sales while others are mainly justified by their value in communicating the *Lammhults Möbel* brand:

> *You want to make sure that it's commercially viable, that is, for us as a company, it's natural that we need to have base products which are commercial and work well, and which sell well and give us a profit. Than we also need to have products, flagship products which stand out and which, so to speak, we can build our brand on, or however you may describe it.... That is, their purpose is not just to generate profit but also to build the brand. And then...well, if you want to be aesthetic and artistic… this doesn't have to be products that are always easy-to-digest or easily accessible, that is purely...commercially...*

However, he says that, over time, the situation can change for a particular product, i.e. some products move into the "commercial box" and start selling in large volumes while others are still "flagship products".

The brand and its importance

Åke Jansson describes his and *Lammhults Möbel's* definition of a brand as the perception of the customer - *"what comes into your mind when you say the brand name"*. According to its CEO, the *Lammhults Möbel* brand is described as *"high quality, good lead times, fast furniture and a special style"*. He says - "then that's our brand and we should stick to it". Åke Jansson says that the brand is extremely important to *Lammhults Möbel*. He is of the opinion that the company's brand image, i.e. the perception of the brand, helps the designers to specify its products and then that makes the retailers choose *Lammhults Möbel's* products. He also feels that much of the brand relates to the company culture, i.e. the brand should, and actually does, reflect the company culture. *"We have to keep our characteristics to not destroy our brand image"*. He thinks that the company has to listen to its customers and their perceptions of *Lammhults Möbel* and that this is achieved through regular feedback from, for example, retailers, but that brand recognition has also been measured by sending out questionnaires.

Åke Jansson says he is responsible himself for communicating the brand internally, within *Lammhults Möbel*. He says:

> *When you speak about the brand internally, 140 people out of 150 think of our logo"*

and feels that it is important to spread knowledge on the importance of the brand within the company and that it is the "content" that is important, e.g. the high quality

products and the lack of problems faced by retailers. The company has to function, everything else is just window-dressing. Åke Jansson is also of the opinion that every brand has to provide the "base", e.g. the ability to provide good quality. Without the base, he feels it is impossible to be profitable. However, there are other things that are important in creating value. He mentions, for example, the importance of working with external designers:

> *By engaging external designers, we instantly get a better relationship with other designers in the designer community. I show that I support and appreciate freelance designers, that I'm designer-friendly - "We didn't create this, your colleagues did".*

He is of the opinion that part of creating the brand is to "*fit in with the product and interior designers. The values these persons host, those values we have to communicate to our target groups, that's really important to us"*. He continues; *"This cannot be something superficial, it has to be a genuine interest."* Åke Jansson also mentions that he believes that the product designers and interior designers appreciate the "commercial thinking of *Lammhults Möbel*" as this is something they seldom stand for themselves.

> *We appreciate them for the soft values they represent, and reciprocally, they appreciate us for our commercial values. We can help each other. And we have to communicate their values in our marketing and maybe also in our products, which means that we cannot be entirely commercial when it comes to our products. Maybe, we sometimes have to present real "candy" that is very artistic. So that they can see that "they're slightly daring". This will not be a large volume product, it will sell a little because it does not fit in everywhere..... However, it will fit in somewhere and it may become a little icon "I have one of those".*

Moreover, Åke Jansson also feels that these differences of interest are not really in conflict:

> *This will not become a conflict as long as the company is genuinely interested in providing design. However, if the company tries to manipulate the market, without genuine interest, this may be dangerous.*

He says that the employees of the company are even more interested in design values than he is and that he is the one who tries to resist sometimes; *"I say to them: no, we cannot make another product like that, we have to think commercially"*. He says that a lot of feelings are involved and he sees this as a generally positive aspect; *"the staff of the company really like doing things...you have to do things that you like yourself, otherwise it becomes untrue..."*. He continues by explaining that the change he is

looking for, towards a more commercially-driven company, is difficult and that it is a balancing act.

4.5 The designers

Four of the five designers involved in the development of the studied products have been interviewed during this case study[1]. These designers were all trained in product design and are established on the Swedish and/or international furniture markets. The use of these particular designers in the studies is the outcome of the selection of the product development projects, which is further described in Chapter 4.6.

4.5.1 Roger Persson

Roger Persson is a trained cabinet-maker and a designer graduating from HDK in Gothenburg. After his studies, he started up the *Stilpolisen* design studio together with two fellow-students and, later on, he also started up the *Roger Persson Design* studio. Roger Persson mainly works with furniture and lighting design but he has also designed other products, e.g. toys. He has designed products for a number of Swedish companies, including furniture manufacturer *Swedese*.

4.5.2 David Regestam and Junichi Tokuda

David Regestam and Junichi Tokuda met in Gothenburg during their designer studies at HDK - the School of Design and Crafts. At that time, Junichi was studying in Tokyo, but temporarily in Sweden to participate in an exchange programme. The two designers are personal friends who enjoy working together and discussing design ideas. The team has designed some furniture for the Japanese market, but the ottoman Steelo, which is focused upon in this doctoral thesis, was their first product to be introduced on the Swedish market. In the Steelo project, it was David Regestam who worked closely with *Karl Andersson & Söner*, while Junichi communicated with David Regestam by e-mail and phone from Japan. David Regestam explains that the two designers complement each other. While David Regestam is best at making the initial sketches and communicating with manufacturers, Junichi's expertise lies mainly in taking the idea further, e.g. by making 3D sketches. This is, thus, a valuable and appreciated collaboration for both these designers.

[1] Unfortunately, it was not possible to conduct an interview with designer Lina Nordqvist. The reason she gave for this was being very busy working on both product design and set design projects. I have chosen to include the project Level anyway, as I still found it to be of interest to my conclusions. However, I am aware of the imbalance between the projects.

David Regestam works full-time as an interior designer and is employed by a large interior design firm. Thus, he designs products only as a side-line, mostly on a freelance basis. He thinks that the fact that his freelance design business is not his main activity enables him to act under freer forms and to create things that he himself likes and to collaborate only with companies he likes to work with. Moreover, it also gives him the financial strength to do a lot of pre-work, e.g. he may have a prototype produced in advance and meet up with sub-suppliers. This, he mentions, might be harder for a designer who has less financial strength and who is more dependent on an income from design. Instead, a designer like this, in David Regestam's opinion, may choose to present his/her work at a fair in his/her search for a manufacturer, instead of selecting a particular manufacturer for his/her product designs.

4.5.3 Lina Nordqvist

Lina Nordqvist graduated from the Beckman College of Design in Stockholm. After gaining many years' experience as a set designer in the Scandinavian film industry, she now works with furniture design and set design for clients in both the public and private sectors. In 2009, Lina Nordqvist won the 'Accent on Design' award in New York and, in 2010, she received Swedish interior design magazine ELLE Interiör's prize for 'Chair of the Year'. *Karl Andersson & Söner* presented her Level bookshelf at the 2012 Stockholm Furniture Fair.

4.5.4 Anya Sebton

Anya Sebton graduated from the Beckman School of Design in Stockholm in 1996 and has been working ever since as an industrial and interior designer. Anya Sebton has been working with *Lammhults Möbel AB* since 1996 and most of her product design relates to *Lammhults Möbel* or *Abstracta*, a sister company within the *Lammhults Design Group*.

4.5.5 Andreas Störiko

Andreas Störiko was born in Germany. He studied architecture at *Staatliche Akademie der Bildenden Künste* in Stuttgart and continued with further design studies at the Cranbrook Academy of Art in the US. He designed his first product even while studying in the US, and this was successfully introduced onto the market. Ever since his studies, he has been working as a freelance designer. As he puts it: "ever since my first product, I have been able to pay my bills working as a designer". After his studies, he went to Milan to work as an assistant to designer Richard Sapper. This was Andreas Störiko's way of learning his craft well, and learning to go from paper models to actually "*creating something that you have in front of you, in the right*

dimensions". He emphasises the importance of not only "*working with computers*" but also of being able to realize the idea using real materials. *Lammhults Möbel's* representatives describe Andreas Störiko as a "technical" designer. After working with Richard Sapper, Andreas Störiko opened up an independent design studio in Milan, whose customers are mainly in the furniture sector. He has designed furniture for a number of companies in Europe (e.g. *B&B Italia* and *Wilkhahn*) and he has also won a number of design awards. Today, he lives and works in Sweden. The Volo project for *Lammhults Möbel* was Andreas Störiko's first collaboration with a Swedish furniture company.

4.6 The product development projects

In this chapter, the five selected new product development projects are presented. The case presentations are the result of interviews with key people, i.e. managers and designers, involved during new product development. The projects are mainly presented as empirical stories, i.e. the events are presented in chronological order and close to the description given by the interviewees. Naturally, individual perceptions of a process may differ from interviewee to interviewee. As my focus is not primarily on comparing and analysing similarities and differences between such different perceptions, I have chosen to combine their stories into one single project. However, I will comment on existing differences when I deem this relevant and necessary with regard to understanding the progress of the cases.

4.6.1 Mill

Mill is a table, designed by Roger Persson and launched at the Stockholm Furniture Fair in 2012. Mill has a solid wooden top and legs. An interesting and unusual detail is that the table top has been milled down. Mill is available with a round, square, or rectangular top in a number of different sizes as well as in heights of 460, 590, and 720 mm.

Mill is the second product that *Karl Andersson & Söner* and Roger Persson developed in collaboration. The first contact between Roger Persson and *Karl Andersson & Söner* took place about ten years ago. At that time, it was Roger Persson who contacted *Karl Andersson & Söner* as he wanted to discuss and suggest a particular product idea. According to Roger Persson, this is his usual way of starting up collaboration with a manufacturer. During the meeting, as the idea he was suggesting was rejected by *Karl Andersson & Söner*, he asked whether *Karl Andersson & Söner* had some other product idea that he could work on. After some time, *Karl Andersson & Söner* contacted him, as they wanted to discuss a possible table solution.

Roger Persson says that he had contacted a few selected companies to discuss his first product idea, the table Cross. He generally tries to avoid contacting companies that make products that could potentially compete with companies with whom he is already collaborating. However, during this initial collaboration with *Karl Andersson & Söner*, the competitive situation changed with time as the company he was working for at that time, which was not supplying tables, was acquired by another company, which also offered tables. In this case, however, as the collaboration had already started, it continued. According to Roger Persson, it is necessary to "be

correct" and to avoid competition of this kind. Sometimes, in order to expand his business, he chooses to start designing new product categories rather than suggesting competing products to a second company. He says; *"if a designer offers similar products to more than one company, this will run the risk of backfiring on you later"*. However, he sees this potential problem as something that could be positive, as it sometimes acts as a driving force for him to expand into new product categories that may lead to new business.

Both Roger Persson and Andreas Wadskog stress the fact that an already-existing business relationship and/or personal knowledge of the potential business partner are important when selecting which manufacturer/designer to collaborate with in product development. Roger Persson says; *"Because, when I work on an assignment, I prefer to work with those I have already been working with"*. Andreas Wadskog feels that previous experience of collaboration helps him when trying to deal with the huge amount of different product suggestions that he receives from different designers daily. In the Mill case, Andreas Wadskog did not send the assignment to any designers unfamiliar to the company, only to a few designers that he knew well. The reason for this was mainly, according to Andreas Wadskog, the fact that finding and evaluating new designers is both time- and energy-consuming. His response during the interview is: *"I can't, I feel it's time- and energy-consuming, I checked and just today I've had several requests!"*

Roger Persson mentions that companies' selection of designers is very much based on relationships, as the competition is great. Having a personal relation helps and he believes that a good experience, i.e. if a previous collaboration worked out well and that it was a commercially successful project, i.e. that it turned out to be a good product, will facilitate the hiring of designers. He says:

> *Many times, when you're anonymous, it's easier to get a no without even getting the chance to present. It's difficult to get to a meeting and easier for the company to say no than if you're discussing ideas face-to-face. They get an enormous amount of ideas which I'm not sure they can deal with.*

Roger Persson thinks that, by leaning on a previously successful relationship, you might also improve your chances of succeeding in a new project. Roger Persson states that he has experienced finding it hard to gain acceptance of a product idea when not well-known to the employing firm. He says: *"It's easier for them to say no. They get an enormous amount of ideas all the time which I'm not sure they know how to deal with"*. He continues: *"The relationship is more important than many people will admit!"*, also stating that his impression is that there are some main selection tools for the manufacturer to use: firstly, using a designer because of his/her skills; secondly,

because he/she is famous; thirdly, because they are "buddies"; and lastly, because the product concept is so fantastic that they cannot resist it. Andreas Wadskog supports this statement by saying that the reasons he sees for starting up a collaboration with a new designer is either that he sees something unique in his/her product idea or that he meets someone, e.g. at a furniture fair. He explains:

> *"Then, if an established and well-known designer says "hey, could we do something together?" You meet many people at the fairs. And it's probably harder for those who are established to send in something without a previous contact."*

Not engaging an external designer, i.e. leaning on internal design competence and experience, was not an option in the Mill case, according to Andreas Wadskog. *Karl Andersson & Söner* has no internally-employed designer resources, only lenghty experience of manufacturing designer furniture, as described earlier. Only one product in *Karl Andersson & Söner's* current product range was designed by internal resources. When asked about the reason for engaging design resources, Andreas Wadskog explains; *"You want to have somebody to discuss things with, some...advice...and you want a name"*. He continues:

> *There's always something in the collaboration itself, in the meeting, in the thinking...that I would never be able to get on my own. You'd get narrow-minded. I can easily get too focused on production issues, but they ask these...sometimes naive questions, or they stick to their opinions. I can feel afterwards that it was a good thing, that they did that. Truly. They also have this..."there's something there"...and then it's important to be responsive to that.*

In 2005, some years after designing the Cross table, Roger Persson wanted to design another product for *Karl Andersson & Söner*. He presented a number of different solutions to Andreas Wadskog, but none of these suggestions were of interest to *Karl Andersson & Söner*. In 2009, he suggested a follow-up design on the Cross table, i.e. a further development of the product. He presented his suggestion to *Karl Andersson & Söner* who were in favour of it. However, as *Karl Andersson & Söner* were developing a fairly similar product at the time, they said, according to Roger Persson; "*we like it, but this solution is rather similar and there's a risk of it colliding with our product"*. Andreas Wadskog thus asked Roger to present a different solution. He requested a table which was a bit more robust, of the "*hotel, nightclub*" type. Andreas Wadskog explained that his idea regarding Mill, as a more robust table, arose from a gap in the product range. However, this notion was not the result of any conscious analysis of the existing range of products, instead being realised by coincidence. During a business trip to Stockholm in 2010, Andreas Wadskog noticed a table

which was positioned in several different locations around the same hotel, e.g. in the lounge, the lobby, and the restaurant. It seemed like this table was quite useful in several different situations. Andreas Wadskog reflected on the fact that *Karl Andersson & Söner* never received any customer requests for such a table since they did not, in fact, have any tables of that kind in their product range. Besides a general knowledge of market requirements, gleaned from discussions with, for example, customers, no market research had been done at any time during the new product development process. Andreas Wadskog says, laughing slightly:

> *Well, we believe that we should like the products ourselves, and then others will like them, or not. We do something like that; we never collect information about what customers think.*

In the Mill case, Roger Persson's product idea was chosen by *Karl Andersson & Söner* from a number of different suggestions. However, Andreas Wadskog also says that *Karl Andersson & Söner* seldom works with assignments in this way, instead selecting from submitted product ideas. In this case, though, Andreas Wadskog says that, once back in the office after his trip, he made a product assignment, i.e. the very first conceptual idea of the product, with a short description of a "more robust, resistant, and small table". The assignment was sent out to a few designers whom the company have previously fruitfully collaborated with. Roger Persson, somewhat differently, says that he, as a continuation of his other suggestion for a table, was asked to make a more stable design which would last and be functional in several different environments, but which would still give a pretty and neat impression. Andreas Wadskog says that *Karl Andersson & Söner* already had several sofa tables in its product range which were elegant but did not work well in a more demanding environment. In response to the assignment, Roger Persson sketched out a new solution with more legs and a table top that were robust. He showed it to Andreas Wadskog, who appreciated it a lot. This was in 2010.

Andreas Wadskog states that: "*with an assignment, you never know where it will end up*", meaning that the product suggestions you receive when sending out an assignment can vary considerably. In the Mill case, there were two product suggestions that Andreas Wadskog deemed interesting enough to be potential product development projects. One of these two suggestions ended up as Mill while the other led to another product development project in which a new type of construction material, HI-MACS, was used. Andreas Wadskog states that: *"Both suggestions were good, but since Joel also suggested a HI-MACS table, I got him to work on another project that included his suggested HI-MACS solution*". He continues (laughing) *"So this single product idea actually resulted in two products!"*

In the Mill case, the initial product concept that Roger Persson submitted did not explicitly include production aspects. Roger Persson says that he usually takes the production facilities, as well as the manufacturer's skills and existing product range, into consideration when suggesting an initial concept. However, in the Mill case, he did not really consider *Karl Andersson & Söner* or their skills when making the initial draft as he believed that this table was not particularly complicated in terms of shape and material. Andreas Wadskog further states that it is not the designer's responsibility to include production aspects in the initial drawings, i.e. suggestions about how to manufacture the product, only its visual appearance. However, he has noted that this may vary with the different designers' carpentry skills. In cases where the designer is skilled in carpentry, the initial suggestion sometimes takes design issues into consideration already, feels Andreas Wadskog. Although, he continues: *"We're the ones with the production facilities and we may want to do things our way anyhow"*, meaning that their way of designing the product is unique and dependent on their equipment; thus, the designer's ideas may be overruled anyway.

Andreas Wadskog says that development started off with the legs of the table. Several different 3D drawings were developed internally at *Karl Andersson & Söner* on the basis of the initial product idea and communicated to Roger Persson. During this phase, it was Andreas Wadskog, together with *Karl Andersson & Söner* resources from the production department, who managed the development process and saw to it that development progressed. Their main concern was to design a stable table on the basis of Roger Persson's initial product idea. As the legs of the table were to be separated, as suggested by Roger in his initial concept drawing, there was a problem as regards getting a good and stable fit between the legs and the table top. Moreover, as the product was to be painted, there was the potential problem of cracks in the paint due to movements in the wood material, if the legs were to be separated. When they believed they had found a good solution, they built a prototype and invited Roger Persson to have a look at their idea.

During that meeting with Roger Persson, the legs were slightly adjusted in width and length to obtain good proportions. While showing me the drawing, Andreas Wadskog explains: *"As you can see here, there's only a difference of a few millimetres...to 37 from 35. This is Roger's stuff you see - no, not 52, we take 26"*. When asking Andreas Wadskog whether these adjustments were due to functionality or production he explains; *"No, it's the appearance (laughs)! He got to change things a little, and that made him feel good! We often make a joke of it: "ok, you can have that much, but no more!"*

Roger Persson also mentions such discussions about details which, according to him, have a "great impact" on the final result. He says that "fiddling about" with details, e.g. the thickness of the table tops and the shape of legs, is a normal part of

product development. For example, a larger table top will make the "legs disappear more", something that may cause a conflict when the manufacturer wants, for reasons of economy, to use the same type of legs for tables with different sizes of table top. Roger Persson states that:

> *There are always compromises. It's important not to agree on too much. The risk, then, is that the product could "die" and I've been through that several times. Sometimes, there's too much compromising to make the product conform to the company structure, their product range, so the product loses its soul. It's hard to realise after a while that you've given up too much...because you wanted the product to be introduced onto the market.*

This is something he comes back to during the interview, i.e. how the desire to finalize the product and get it launched onto the market runs the risk of making the designer compromise too much. However, in the Mill case, Roger Persson says that there were no serious conflicts. There were, according to both Andreas Wadskog and Roger Persson, many discussions; however, both Andreas Wadskog and Roger Persson seem happy with the final outcome after these conflicts of interest. Both Andreas Wadskog and Roger Persson say that, sometimes, when looking at the final result, they realise that the outcome, even if it is not exactly what they advocated during the discussion, is for the best.

Next, the prototype of the Mill table was showed for the *Karl Andersson & Söner* sales force. Andreas Wadskog explains that there are normally two meetings a year with the sales force and, thus, the scope of this meeting depends on where in the product development process you are at the time of the meeting. In other words, the products that are presented at this meeting may very well be undergoing different stages of their development process, ranging from ideas to almost completed. In this case, Mill was presented at a rather early stage of its development.

Andreas Wadskog says that he prefers not to involve the sales force during the early phases of development as his experience is that they can frequently encounter problems realizing the sometimes major difference between a prototype (being presented) and the final product (the end result). However, the sales force's reaction in this case, according to Andreas Wadskog, was; *"Well, it's a nice table but...the customers will not pay for it being nice underneath. The table top is too ordinary"*. Andreas Wadskog says that he had already thought about suggesting something different regarding the design of the table top surface, so this meeting just reassured him that something should be done.

He approached Roger Persson with his thoughts and the latter's reaction was quite positive, according to Andreas Wadskog; "Oh, is that possible! Great! I also

thought that, but many companies think it would be too expensive! Of course we'll do that". Roger Persson says:

It's comical when a producer does something wild. Normally, it's the designer who comes up with the crazy ideas and it's the producer who says "No, no, no" You cannot do that!" In this case, however, it was almost the opposite. He challenged me! As a cabinet-maker, you have certain rules that you must not break, for example you do not mill a massive table top, it isn't possible and it leads to loads of work later on, so that's why I didn't suggest this. The machines and the skills of Karl Andersson & Söner make it possible to do, and it became a frame on the table top. It's normally best to leave the table top flat, because this is what they want.

However, Roger Persson explains that another part of his job is being slightly provocative and challenging the producers as regards what is possible:

You have to be responsive and try to show solutions that are a bit crazy. You may not believe in them yourself, but this is necessary in order to open up a little and get the manufacturers to think "out of the box". That is a method I usually use, but in this case, I didn't go that far.

He explains that there are both advantages and disadvantages to being an experienced designer. He first says: "I've been doing this for a while, which makes it possible to enter into discussions, for example about production aspects, as a designer". But he also says:

There's a difference in working with products where you have less skill, where you can make crazier suggestions and say "this might be crazy but I'm going to say it anyway!

He believes that the furniture industry is normally quite narrow-minded, which causes him to reject some ideas right from the start. He continues:

I try to work less like that, it's boring to work that way, I still try to show ideas that are borderline, in order to challenge myself and the manufacturers. To get them to open up their minds and think in new directions.

He mentions that one big challenge lies in constantly keeping abreast of new materials and their possibilities.

The next step in the process of developing Mill was Roger Persson making a new suggestion on the basis of the feedback he received from Andreas Wadskog and the sales force. However, when making a prototype table on the basis of this suggestion,

Andreas Wadskog deemed the table top too thin and slender. Andreas Wadskog says:

> *It was really nice and elegant, but it was too slender. According to the specification, it wouldn't be resistant enough, and it looked strange with this neat table top paired with these robust legs*

Thus, the comments from Andreas Wadskog during the project concerned both the actual function and the visual design of Mill. Andreas Wadskog further explains that this may have been the result of the 3D drawings not always revealing all the drawbacks of a product and that, sometimes, it is necessary to see the finished prototype in order to envisage the final result. Roger Persson agreed that the product was not well-balanced and a new version was built, with a thicker table top. Here, Andreas Wadskog's father, Ingvar Wadskog, with his lengthy experience of manufacturing wooden furniture, rather spontaneously issued some warnings about the wood design. Moreover, they also realised that the table, if made in large sizes, would become quite unstable; thus, Andreas Wadskog and Roger Persson decided that *Karl Andersson & Söner* would only offer smaller sizes.

Moreover, it was also discussed whether or not a rim would be acceptable to customers on a larger table, e.g. a dinner table. Roger Persson was convinced that such a rim would not be comfortable when people were seated at the table and that it would also be difficult to clean. Here, Roger Persson was the one bringing up the functional aspects. Andreas Wadskog, on the other hand, thought this table would be ok. Andreas Wadskog produced a prototype table, which he tried out in his own home environment and was quite satisfied with. He says with a laugh: "*It's great, I still use it! When you have kids and milk gets spilt – the rim's perfect!*" However, Roger Persson does not think that this is a good idea. The solution to this conflict was to offer a table with a rim, but it also lay in being prepared to offer larger tables without a rim if the customer demanded that.

Andreas Wadskog also found a potential design problem in his discussion within the company. In this case, the version of the table that was to be painted was not made of solid wood but of MDF. More or less by coincidence, Andreas Wadskog and an employee from the production department discovered that gluing three thinner boards together was not only a good solution for creating a thick board (which was the original reason for doing this), but also a good solution for avoiding different wood hardnesses at the surface and in the parts that had been milled down. Here, *Karl Andersson & Söner's* lengthy experience of working with wood and making wood products was both evident and important – once again. Moreover, it is

sometimes through trial and error that a solution becomes refined over and over again.

Another aspect considered during the development of Mill was the wish to include different possibilities enabling the designers/end customers to suggest their own adjustments to the product design. Roger Persson says that the design of Mill was indeed affected by such considerations. For example, being built using MDF makes it possible to have different surface finishes, e.g. in terms of colour. As Roger Persson says:

> *When the product has been on the market for some years, there's always a request for alternative designs based on the interior designer's personal preferences.*

Both Andreas Wadskog and Roger Persson emphasise that a small company like *Karl Andersson & Söner* has an advantage regarding flexibility and speed during the product development process. As Roger Persson says:

> *There are always a number of different phases during projects, but when you're in the middle of the process, everything is mixed up and all those involved want to have their say. The larger the company is... Karl Andersson & Söner is nice to work with as there is only Andreas and one or two people from the production department...at other companies, there are management meetings, the market department has to have its say, sales has to have its say.... In this case, there's only Andreas to discuss things with.*

Roger Persson further emphasizes the importance on involving the right people in the project right from the start:

> *It's important that all those involved agree on where you are in the process. That's not always the case. If you question fundamental things like "do we need this product at all" – such decisions need to be taken early on in the process but are sometimes taken too late, depending on who is involved in the process. Sometimes, you advise sales or marketing people at the end who can affect things that would've been decided on during phase one of the process.*

However, Roger Persson is of the opinion that collaboration with *Karl Andersson & Söner* and Andreas Wadskog is smooth. He explains that this is probably related to the size of the company and the small number of people involved, but he is also of the opinion that the sense of trust has been important:

> *With Karl Andersson & Söner, and Andreas, you can feel a sense of trust. There you can feel that only a few people are involved. Discussions are held with Andreas and I like that. He can get input from Sara and vice versa, but it's nice to have one single*

person to talk to as a designer. The special thing about Karl Andersson & Söner is the directness, it's what Andreas says it will be. If he hesitates, you know that there will be nothing.

4.6.2 Steelo

Steelo is an ottoman which was designed by David Regestam and Junichi Tokuda in 2012. It is a large piece of furniture measuring 1050 mm in diameter and 460 mm in height. The extruded metal base comes in a black lacquer or copper finish as standard, with a seat cushion covered in leather or fabric. During the Steelo project, David Regestam worked closely with Andreas Wadskog from *Karl Andersson & Söner*, while Junichi Tokuda communicated with David Regestam remotely by phone, e-mail etc. Its development took a little less than a year, from the initial meeting to the launch at the Stockholm Furniture Fair in 2012.

David Regestam explains that it was the material used in Steelo - the extruded metal - that was his initial inspiration when designing Steelo. This material is generally applied as a functional material, e.g. to facades and fences, and it has not previously been used in furniture. The material is "*like a paper*" says David Regestam; it is flexible and easy to shape in one direction but still very tough and strong in the other. Steelo is probably "*one of a kind*" and, as David Regestam puts it, it will be hard to produce similar furniture in the same material without coming close to the Steelo design. David Regestam explains that he and Junichi discussed the product idea and sketches via mail and phone.

Before contacting a potential producer, David Regestam explains that he had discussed the manufacture of Steelo with "*almost the only possible*" sub-supplier, *Expandermetall*. David Regestam mentions that he and Junichi normally prepare well

and go far from the initial sketches before contacting a possible producer in order not to waste time and money.

> *I'd never work in any other way. If you'd been a recent graduate bringing in some nice 3D pictures and sort of...do something with this! Then you wouldn't have been...it's not business-like to work like that because then you don't have knowledge of the material and you wouldn't have made this...conscious decision, you could end up with any shape. And some designers work like that, because they're not interested in going all the way because they can't find their way and they're not able to. I'm not interested in working like that and Junichi isn't very often either. We always take the idea at least two steps further on from the drafting table and end up with a prototype and samples of the material and you've made some checks regarding what's possible to do before you get in touch. Because otherwise, you have just wasted your time and the producer's time...and a supplier that might start to experiment and it's expensive...so we usually take things pretty far....*

However, the time and effort he puts into this work is unpaid. David Regestam mentions that all the "*free hours*" he invests in the potential future product, in the hope of obtaining some royalties later on, would, in fact, be difficult to do if there was a customer paying up-front for the project. He feels that a customer would not be prepared to pay for this work. He also thinks that the fact that he has an income from his work as a designer, and thus being independent of his income from designer royalties, also affects his way of working with potential manufacturers and gives him more freedom.

He also mentions that the design process, the roles, and one's efforts during this all depend on the competencies of the individuals, i.e. the designer and manufacturer involved might assume different responsibilities depending on their skills and backgrounds.

Andreas Wadskog was contacted by David Regestam, who says that he had "*a number of companies on his list*" as potential producers of Steelo, but that he selected *Karl Andersson & Söner* as his first choice. As previously mentioned, Steelo was the design team's first product on the Swedish market. At the initial meeting with *Karl Andersson & Söner*, David Regestam presented five different product ideas to Andreas Wadskog, including Steelo. One reason for David Regestam contacting *Karl Andersson & Söner* was the fact that he had had good experiences working with Andreas Wadskog and his sister Sara in his role of interior designer. Second, he mentions that the fact that *Karl Andersson & Söner* had been working with Swedish-Japanese design teams (Holm - Sunaga) previously, when developing the Newton table, was another reason for approaching them. Moreover, he also explains that the

reason why he presented Steelo, in spite of the fact that this product is slightly different from the wood products characterizing *Karl Andersson & Söner's* traditional product range, was that the company had produced a number of tables with interesting frames. As David Regestam explains, it is not only the material that he sees as the common denominator in different *Karl Andersson & Söner* products but also the craft tradition and the skills used in production and crafts. He mentions that in-house production facilities and tradition may sometimes be "limitative" towards a company's design intentions. He says that he wanted to "provoke" Andreas Wadskog a little bit. David Regestam also mentions that he believed that *Karl Andersson & Söner* would be able to do his product idea justice:

> *It maintains a very high level of quality in its furniture and it is a company that has a high turnover compared to many other furniture manufacturers.*

Andreas Wadskog explains that, as *Karl Andersson & Söner* is often approached by different designers and has to prioritize striclty between different design ideas, he generally asks an unknown designer to present his/her product ideas by e-mail or snail mail before setting up a meeting. However, Andreas Wadskog explains that, in the Steelo case, the fact that he was aware of David Regestam also having worked as an interior designer at a well-known firm was one of the reasons why he decided to meet with him at *Karl Andersson & Söner*. First, being employed as an interior designer seemed like good evidence of David Regestam's knowledge of design but, additionally, setting up a meeting with David Regestam was also an opportunity for Andreas Wadskog to meet with and market *Karl Andersson & Söner's* products to an interior designer. Such a meeting, thought Andreas Wadskog, would perhaps lead to David Regestam including *Karl Andersson & Söner's* furniture in an interior solution at a later stage, i.e. it was actually an opportunity to sell.

David Regestam says that, during that first meeting: *"It felt right. It felt right from both sides, you could talk and you understood each other and so on"*. Andreas Wadskog says that initially he was hesitant about the specific product, Steelo, as *Karl Andersson & Söner* is generally not "*strong in the seating segment*". However, during the meeting, Andreas Wadskog describes David Regestam's choice of manufacturer for Steelo thus:

> *David explained that when you think about Karl Andersson & Söner, it won't be when you need an office chair or something, it'll be when you need the short-time seating in the entrances etc. And I reflected on that and thought it might actually be true.*

As previously mentioned, five different products were presented during the first meeting, but Andreas Wadskog chose Steelo as the product to collaborate on.

Andreas Wadskog mentions that one thing facilitating his decision was the fact that David Regestam had already been in contact with a potential sub-supplier and had collected price indications etc, which he brought to the meeting. However, nothing was settled at the meeting itself. Instead, Andreas Wadskog reflected on the idea for some time, informally discussing the product idea "*while walking to the office*" or "*over dinner*" with his sisters Sara and Maria, and with his father, which resulted in some different opinions about whether or not to take Steelo in. Andreas Wadskog explains that the decision is also based on whether or not products fit with other *Karl Andersson & Söner* products and how they could be further developed. He also mentions that, in this case, he saw less risk attached to launching the product as it was mostly manufactured at sub-suppliers, and thus no heavy tool investments were involved.

When it came to costs and pricing, in the Steelo case, both David Regestam and Andreas Wadskog describe the product as "*one of a kind*" and one that "*can bear a higher cost*". David Regestam says that, right from the start, it was clear that this was not a high volume product but more likely one that would sell either one or a maximum of two to three units per customer. He also describes the product as "*exclusive*" and "*not competing*" with any other product, and that it would be "*difficult to find an alternative solution, once you'd decided that you wanted this product*". He also says that, due to its large size, the product demands a spacious environment.

Andreas Wadskog says that, generally, the price is never the most important consideration for *Karl Andersson & Söner* when developing products. Primarily, it is the design, in this case firstly the form, the visual appearance, and secondly the functionality. This, according to Andreas Wadskog, goes for all the company's products. Even though he says that there is, naturally, a limit when it comes to cost, he also says that:

> *If it costs just a bit more, but makes the product a lot better...then we prioritize the design. That is the way things are. So, we never put the price first, kind of thing."*

David Regestam also believes that Steelo is different from other products and thus possible to charge customers more for. He explains that he has no say in the final price level of the product, but mentions the fact that he is not yet an established designer in Sweden may affect the price, and also be a limitation to his design.

> *It does a bit, it's in competition, I can't make an ottoman that... as a rather unknown designer I can't charge on the basis of my name as yet (laughing), and I'll face the Danish ottomans from...well Eric Jörgensen, they're about the same price as Steelo. This product has more of an exploratory value using a new material etc. while they sell*

more based on their name and a well-known designer etc. So...it's interesting...how much you can charge for a product until people start to ask questions.... And I think that this product can be charged for. I know that Andreas, he doesn't add a lot of margin at all, but this product may be a bit more expensive, as it's one of a kind, while other products are more alike and interchangeable. It may be expensive, but it's difficult to find anything like it, I think, once you've decided on this one.

Sometime after the initial meeting, a positive decision was communicated to David Regestam regarding collaboration and Steelo. David Regestam mentions that he values Andreas Wadskog acting as a "filter" all through the development process. The five ideas presented to Andreas Wadskog ended up as one, i.e. Steelo, which David Regestam then assumes to have been the best. He says that the process of collaboration - both with the manufacturer and Junichi - is a way of "constantly questioning yourself", something which he says is necessary in order to "sift out the best ideas" and come the "furthest". In contrast, David Regestam states; *"some designers are so large and holy that nobody dares to question them"*.

There was no discussion with retailers or customers during the project. Instead, *Karl Andersson & Söner* relied on the market knowledge of Andreas Wadskog, and it was Andreas who did an informal cost/income calculation. In this case, Andreas Wadskog also mentions the he regarded David Regestam's experience as an interior designer as a help in judging Steelo's potential market success.. Andreas Wadskog explains:

We don't have any discussions like that with retailers, really we don't. More than the fact that David Regestam also works as an interior designer. It's really hard to know. If it's the case that this product....out there...the products work for themselves to a limited extent. We have sales visits,, we don't have much sales material, we have this brochure and the price list and the website..... and in our showrooms. Now the work starts, this product is as it is, so to speak, not many versions available. It's a matter of "take it or leave it"... We don't conduct any discussions with the retailers prior to launch.

The collaboration with *Expandermetall*, the supplier of extruded metal, is described as critical to the Steelo project; the next step after the decision to collaborate was meeting with the sub-supplier. It is clear that David Regestam also assumed the responsibility for creating a working relationship between *Karl Andersson & Söner* and *Expandermetall*. He mentions the importance of "*chemistry*" between *Karl Andersson & Söner* and the CEO of *Expandermetall* in order for "*the collaboration to work out all the way through the project*". He further states:

I introduced Andreas Wadskog to Andreas Holmberg at Expandermetall and that collaboration worked out well, they understood each other and what they wanted... so this is like a tripartite solution.

Andreas Wadskog and David Regestam did a very rough cost calculation during the meeting with *Expandermetall*, resulting in the decision to make the first prototype. Much of the cost relates to the "frame" and thus to the sub supplier's production and material costs. As this was a new material and a new production process, the estimate was difficult to do.

David Regestam describes a long, iterative development process and close collaboration between himself, Andreas Wadskog, and the sub supplier, *Expandermetall*. Aspects of safety, e.g. customers not being able to cut themselves on the product, the weight, and many different issues relating to the visual appearance, e.g. the size of the metal loops and the height of the seat are all discussed collaboratively, with a number of 3D drawings and prototypes being made and evaluated. Both Andreas Wadskog and David Regestam have their say on all the different issues. For example, Andreas Wadskog says that, when it comes to the safety issue; *"my role then is to say: 'No David, if we do that we won't be able to say anything'"*. However, the issue of the frame being too sharp, and even dangerous, led to a need to deburr the steel, which was costly. The seating also turned out to be more costly than planned, as David Regestam was not happy with the shape, leading to a new design with several different layers of material. Thus, the initial calculation did not last and the chair became more expensive than initially planned. However, Andreas Wadskog says that, as this product was so unique and not very price sensitive, he was able to listen more to the designer's ideas than he would have been with another type of product. With a more standardised product, the cost is more important; thus, the product design and the choice of material need to be less complicated and, thus, less expensive.

As previously mentioned, David Regestam says that he values Andreas Wadskog's acting as a filter, i.e. as an evaluator of product ideas, during the process. David Regestam mentions Andreas Wadskog's "*eye for design*". He explains:

You often have a vision and you try to explain that to Andreas. Sometimes you're surprised, as he comes up with a new idea..."yes, but we'll do it like this instead" and that actually makes the product better!

David Regestam says that Andreas Wadskog's opinions are valuable in all matters and that he appreciates the fact that Andreas makes him constantly question himself:

We get a lot of ideas and then if we liked black and he didn't, we'd have to start by saying "what's good about that" and sort of questioning yourself all the time...that has to be there. I believe that some designers may be so big and so holy that, when they present something, nobody dares to protest...but losing that step would be a pity, you have to question yourself all the time to come furthest....

Overall, both Andreas Wadskog and David Regestam describe their collaboration around Steelo as successful and straightforward. David Regestam says that the reason for this successful collaboration is *Karl Andersson & Söner's* ability to be:

…personal, attentive...and straightforward. They don't play any roles, they just carry on. Straight dialogues without any twists and turns. You can discuss things with them in a good way and have a close relationship and you're able to say how you'd like things to be. You feel a sense of trust, you put your ideas in their hands and they manage them well. I think the number one thing is that you have an honest and straightforward sounding board, and that it's genuine

He also says that one reason for his sense of trust and the feeling of genuine interest from *Karl Andersson & Söner* is the company's long history:

Because they have a history and a tradition, at some newer companies, you don't feel the robustness that I consider Karl Andersson & Söner to have.

4.6.3 Level

Level is a bookshelf designed by Lina Nordqvist. This bookshelf consists of a number of irregularly spaced rods that support several shelves at different heights. The bookshelf comes in two heights and three widths. It is finished in a choice of eight standard colours, and black stain on oak.

Level was launched by Lina Nordqvist at the Stockholm Furniture Fair 2012 in Greenhouse, which is the designer's and the design school's own exhibition during the fair. Lina Nordqvist had her own booth and was exhibiting a few different pieces of furniture. Andreas Wadskog explains that Lina Nordqvist was formerly unknown to him but, as they talked, he got to know that she had previous experience of designing for other established furniture manufacturers and that she had also won awards for some of her furniture. Andreas Wadskog explains that these previous experiences "*made it even more exciting*", i.e. he appreciated the designer's reputation and experience and felt more secure seeing Lina Nordqvist as a potential designer for *Karl Andersson & Söner*.

Andreas Wadskog says that he went to the booth several times during the fair to study the bookshelf, also persuading his two sisters to do the same. As they were agreed that it would be a suitable product for *Karl Andersson & Söner*, they decided to make an effort to engage Lina Nordqvist in developing the product with them.

Consequently, sometime after the fair, Andreas Wadskog contacted Lina Nordqvist. However, he explains, she preferred not to enter into a deal with them before having exhibited it at the Milano Furniture Fair, where several other manufacturers would be present. After that fair, where they also met, Andreas

Wadskog and Lina Nordqvist set up a meeting at *Karl Andersson & Söner's* facilities and discussed a potential collaboration, including discussions about royalties etc.

During that first meeting at *Karl Andersson & Söner,* they discussed the product concept further. *Karl Andersson & Söner's* opinion was that the legs were too high, which made the bookshelf unstable, and Lina Nordqvist agreed to this change. They discussed how Lina Nordqvist had made her bookshelf and, as she had been using external prototype manufacturers, she was not really aware. However, as Andreas Wadskog puts it; "*we know what we want to do*", meaning that it is still *Karl Andersson & Söner's* production skills that have to come into play in order to do the final manufacturing. Here, the designer is never involved, he explains. In this case, there were some changes due to production costs, e.g. the distance between the shelves and the legs, which risked affecting the visual impression made by the product. For *Karl Andersson & Söner*, it was preferable to have the same distance between different parts of the bookshelf, as some parts could then be produced at higher volumes. The Level bookshelf is fully manufactured in-house at *Karl Andersson & Söner* and, as Andreas Wadskog says, it "*gets easier*" when a product lies within your own production skills. Lina Nordqvist's design, on the other hand, was based on differences and asymmetries, even though the differences, e.g. the distances between shelves, were as small as 10 mm at times. 3D drawings and finally 3D prototypes were made and the visual impression versus the manufacturing was discussed. In this case, they could try out different solutions internally and be fully aware of the potential advantages and disadvantages. There were also some discussions on the functionality of the shelf, e.g. whether or not the distance between the shelves could allow the storage of binders and whether or not the distance between the legs was too much, running the risk of making the design weak. All these manufacturing changes would change the original design so Lina Nordqvist asked to be able to inspect the new proposed design.

Andreas Wadskog mentions that he prefers to work out a complete solution and a proposal before contacting the designer. He says that he himself also wants people to reflect on a potential solution before raising a problem and he assumes that the designers are like that too. He explains:

> *I know they'd rather not change the visual impression and ... I don't want to just be bringing the designer problems, I'd rather be saying - "This could be a solution - what do you think"?*

4.6.4 Addit

Addit is a modular sofa designed by Anya Sebton. A proprietary magnetic link device connects sections of sofa together. Moreover, the product is also intended and designed to facilitate customer-specific solutions, e.g. in terms of different colours and choices of materials used in the upholstery, frame, and legs. The product was developed during 2011 and launched at the Stockholm Furniture Fair in February 2012, after a very intensive six-month development project. Besides Anya Sebton, the people mainly involved in this project were Per Ljungblad, new product development manager, and Per-Evert Johnsson, former product development manager at *Lammhults Möbel*. This project was one of the first where Per Ljungblad was the product development manager in charge. Per-Evert Johnsson was still rather involved, but no longer had the main responsibility.

As mentioned earlier, Anya Sebton and *Lammhults Möbel* have been collaborating for several years. Even during her exam project at the Beckman College of Design, in 1996, Anya Sebton had been in contact with *Lammhults Möbel* to ask if the company would be interested in producing three prototypes for the project. *Lammhults Möbel* was indeed interested and it participated in the project. Somewhat later, when Anya Sebton was chosen to participate in an exhibition for young and talented designers (*Ung Svensk form*), she once again contacted *Lammhults Möbel* to ask if the company was interested in producing the necessary prototypes. This second collaboration led to a contract being signed between Anya Sebton and *Lammhults Möbel* regarding production of the successful modular easy chair Multiplicity. According to Anya Sebton, this contract was "*totally unique*" at this early stage of a designer's career. A short time after, *Lammhults Möbel* contacted Anya Sebton again as it wanted to

collaborate on another product, subsequently very successful, which was a stool called Millibar. After this project, as Anya Sebton explains it: *"after two successful products, you feel pretty sure that you're going to continue collaborating"*. The CEO at that time, Marcus Larsson, introduced Anya Sebton to the idea of designing a product that would not primarily be aimed at large volumes, but at communicating and strengthening Anya Sebton's own brand as a designer. According to Anya Sebton, Marcus foresaw that the promotion of Anya Sebton could be something that would also create positive effects in both the short- and long-term for *Lammhults Möbel's* own brand. Thus, two more "designed" and brand-reinforcing sofas, called Add One and Add Two, were developed. A number of products designed by Anya Sebton have been launched by *Lammhults Möbel* since then. In 2009, the Area modular sofa was launched. The development project for Area also included the in-house technical development of a solution for magnetic linking, e.g. to link two pieces of furniture together (patent pending). Anya Sebton emphasizes that she developed this solution in close collaboration with *Lammhults Möbel* and that both parties were necessary to the process. She explains:

> *So, first I come up with the ideas, but I mean, magnetic linking, I'd never have been able to figure that out the whole way by myself! There's a team work to get to the end of the project, to get results. But as a designer at Lammhults Möbel, you're involved in all the different stages.*

In 2011, *Lammhults Möbel* contacted Anya Sebton to present its idea for developing a new piece of furniture using the existing proprietary magnetic linking as a main feature. Anya Sebton explains:

> *I almost always work at their direct request. They contact me and say, "We need this product". In this particular case, it was Åke Jansson and Thomas Samuelsson who contacted me and said "We want you to design a sofa that is somewhere between the office/public environment and the home environment".*

The first step of the development process was, according to Per Ljungblad, his receiving a specification of requirements from the marketing department on a not so detailed level, e.g. that it is a sofa with a frame of steel that would be possible to connect to a screen wall. Anya Sebton says that, in this case, the instructions being given by *Lammhults Möbel* were quite informal and not in writing. She explains that this way of working is possible because she has been working with *Lammhults Möbel* for many years and because she is very familiar with the company's way of thinking: *"You are a family"*. However, she laughs a little when she talks about the informality in this case, wanting to explain that now, with Lars Bülow as the new CEO and other

people also being involved, besides him, there are more formal ways of working and managing the new product development process at *Lammhults Möbel*.

The next step in the Addit project, according to Per Ljungblad, was to make an initial prototype which was representative of the final product and which the project members believed was possible to develop, in addition to presenting indications of production costs. This project was, as mentioned above, one of the first projects in which Per Ljungblad was responsible for the product development; thus, Per-Evert Johnsson was still rather involved - something which affected that collaboration. Per Ljungblad explains:

> *At that time, I was working for Evert quite closely, so we made a combination of the new and the old (laughing), so to speak. Marketing was involved right through the process of prototyping, we did a presentation where we first developed a piece of module furniture that we presented, and then we got some ideas about that, how does this look and think about that…Then we produced a prototype that we presented, well this could be something....*

Anya Sebton and Per Ljungblad both say that some market research was done by means of searching the marketplace for existing products that could possibly compete, and their price levels. Anya Sebton says that it is often she herself who carries out this work. She also explains that it has been the case that she has stopped the ongoing development of a product upon discovering something similar in a magazine. The reason for performing market research is, thus, not to search for good product ideas as inspiration, but the opposite – i.e. to avoid making products that already exist. Anya Sebton explains:

> *There's no use launching a product that's exactly the same as another product in the marketplace. But, in this case (laughing), that didn't happen and there was a product in the end.*

In the case of Addit, the marketing manager at the time, who was also manager of *Abstracta*, gave a number of requirements at that time. For example, the product had to be combinable with *Abstracta's* other products, e.g. their developed screen walls. However, Per Ljungblad says that some of these requirements were neglected later on in the project when this manager was given another post within the *Lammhults* group. Moreover, he also explains that it is common for the original market specifications and requirements to be rather overruled during the project's, at times, lengthy creative process. He explains:

As you make prototypes, you think that some things work out better than others...and then we thought "yes, this feels right". Then...there's no getting away from the fact that, often in business, you shouldn't let your gut feelings rule, but.... as regards design... it's often the case that "I can't really tell what it is that does it, but it feels good"...and then we felt that we had to check this out with the marketing department.

Per also says that meetings with marketers within *Lammhults Möbel* are sometimes necessary during development and are set up whenever the need rises, i.e. they do not meet according to some fixed process. Per Ljungblad explains that he thinks the customer focus is quite clear during the project - they know right from the start what customer segments they are primarily addressing and stick to these all through the projects.

Four or five different prototypes were developed during the Addit project. The first prototype, according to Anya Sebton, is often far removed from how the final product will look, but it is the starting point from which the team, in this case mainly Per Ljungblad and Anya Sebton with the involvement of a person working in the production department, creates an initial version of the future product which can be discussed by both themselves and others. As explained by Per Ljungblad, the production of several prototypes is necessary during a project as it is essential to have the possibility of touching and feeling the product. Per Ljungblad emphasises that one of *Lammhults Möbel's* strengths lies in its production facilities allowing the production of prototypes in-house or, in cases where this is not possible, e.g. when making wooden frames, making use of local sub-suppliers that are easily reached. He says that digital visualization is indeed also used, but remarks that such presentations may lead to a false impression:

Well, I can make a rendering look fine. If I do a nice presentation, I might be able to accept the product because of that. But that's not right, so to speak. I need to...I have to feel...from the specification of requirements, I make a prototype or a product which should represent how I imagine the final product.

Per Ljungblad also says that another reason for making good prototypes is that it is difficult for those outside the project, e.g. marketers, to understand the future product's advantages:

It's extremely important to make good prototypes as not everyone is able to visualise product potential. And that's where we're important, in being able to communicate that, how to consider the product.

Per Ljungblad states that he performed a number of product calculations on production costs before, during, and after the product development project. Per Ljungblad explains that the first calculation was not met at the end of the project, instead exceeding it rather.

However, he explains that cost is not the highest priority at *Lammhults* when developing products: "*The price can't be an end in itself which makes you slim down and make boring products...that's how I feel....*"

The development of Addit was a result of close collaboration within the team and changes were effected smoothly, says Per Ljungblad. Anya Sebton was in almost daily contact with both him and those involved in engineering and production matters. Overall, the project is described as close and intense teamwork during which different discussions came and went. Anya Sebton mentions that the development of Addit was also conducted in collaboration with the sub-supplier of foam plastic, and that she often visited the supplier's premises in Denmark during the development work.

As mentioned before, Anya Sebton was involved in all stages of the development work. She explains that she has to have knowledge of construction matters:

> *Well, when you draw a table and a chair, you can't do anything trustworthy without a knowledge of the functional design. It's impossible to draw something without knowing how it functions.*

She further explains that it is in the endultimately Lammhults Möbel who that is responsible for interpreting her initial design ideas and developing theose into a product that is possible to producemanufacture:

> *My drawings form the basis of the aesthetic expression. But I also need to bring in the functional design as a basis of further discussions. I can't visit Lammhults Möbel with a furniture sketch and say, "Well, this is the visual appearance, but I have no idea how it is to be manufactured." I have to come up with an idea. So they can interpret me. Then it's them who interpret and pass on my ideas and to develop a physically possible product, a good design for the production process. But we have two guys who only do that. It's their task. You don't need to know that. However, they don't do anything without discussing it or sending out drawings. I'm fully aware the whole time of what steps they are taking. If things happen behind my back, well of course they do, but such changes do not affect the visual appearance.*

Per Ljungblad describes his own role as a mediator between the designer and *Lammhults Möbel*, e.g. the purchasing department. He explains that this is sometimes a balancing act between different interests:

I have to be on both sides, I have to represent both the designer and the company. I have to convey the designer's aspects to, for example, the purchasing department, but also vice versa. If the designer feels that I'm conveying his/her aspects, then it might be easier for me to introduce the purchaser's aspects to him/her as well. It's a give and take situation (laughs). You have to find new ways to solve problems. Why make it complicated? You just have to find a new method. That is, you can choose to see things as either problems or opportunities.

Anya Sebton attended many meetings and regularly spent time at *Lammhults Möbel*, e.g. when new prototypes or possible major changes were to be discussed. Anya Sebton was, as mentioned above, quite involved right through the development process. Per Ljungblad explains that it is *Lammhults Möbel's* clear intention to allow designers to be very involved:

If we bring in designers, it's because we want to invest fully in them and by allowing them to get involved in the company, they feel...that they are jointly creating an identity with Lammhults Möbel. So, it's because we've chosen to work like that. It is, in fact, a strategy on our part. And it's almost like the designers know our history better than we do, in many cases....

Moreover, Per Ljungblad also says that, depending on the designer's own interests and skills, the collaboration can proceed somewhat differently. While some designers, e.g. Andreas Störiko, according to Per Ljungblad, are more "technical" as designers, meaning that they are interested in technical details, e.g. the functionality of a certain spring or wheel, Anya Sebton is more interested in aesthetics and graphics and she is thus more involved in such matters during the development project.

4.6.5 Volo

Volo ("I fly" in Latin) is an easy chair which was designed by Andreas Störiko and launched by *Lammhults Möbel* at the Stockholm Furniture Fair in 2011. Volo is available in steel, with a seat in black or white leather.

Collaboration around Volo started in 2009. The people mainly involved in this project were Andreas Störiko and Per-Evert Johnsson, who was the product development manager in charge at that time. Per-Evert Johnsson had been employed at *Lammhults Möbel* for over twenty years and had been handling designer collaborations for about ten years. Also participating in the project was Per Ljungblad, who later took on Per-Evert Johnsson's role at *Lammhults Möbel*. Moreover, Volo was discussed at a number of management meetings at *Lammhults Möbel* which involved the product development manager, the CEO, and the then marketing manager. However, Andreas Störiko says that it was mainly Per-Evert Johnsson who dealt with him, while the marketing people were not in contact with him. However, he says: "*for sure they have stayed in background to make sure that money*

is not wasted, but that there are results". Åke Jansson was involved on the management level.

The starting point for the collaboration between *Lammhults Möbel* and Andreas Störiko was, according to Andreas, an informal encounter with a *Lammhults Möbel* representative during an external event. There are, according to Andreas Störiko, only a few meeting forums on the furniture/design marketplace, e.g. furniture fares, as well as a limited number of actors. Thus, these few actors are very aware of each other's existence or, as Andreas Störiko puts it: *"It's a small world"*. Sometime after his initial contact with *Lammhults Möbel*, Andreas Störiko received a phone call from the representative he had met with. He asked Andreas Störiko if he was interested in discussing a possible collaboration with *Lammhults Möbel*, which he was. Thus, they set up a meeting at *Lammhults Möbel's* showroom in Stockholm, where Andreas Störiko presented a potential product idea. However, *Lammhults Möbel* deemed the presented idea uninteresting because of the intended material, which was still unknown to *Lammhults Möbel* and which would, thus, lead to considerable machine investment at their facilities, or at a sub supplier's. Instead, they discussed *Lammhults Möbel's* plans for products during 2011, and then set up a new meeting. At this second meeting, Andreas Störiko presented his product idea for an easy chair - later known as Volo - as a full-scale prototype.

As described earlier, some products developed at *Lammhults Möbel* are considered to be "identity products", not only justified by the desire for profit but also by the communicating of the company brand. In this case, *Lammhults Möbel's* management team had realised, during 2009 and 2010, their need for a new product and/or a new designer that would help them regain their market position as a leading design company. Åke says:

> *Well, that was a special period of time, we were in a hurry to develop products that...would carry the brand for a long time. That is, we needed to change our product development to show that we could develop innovative designer products and…yes...we ourselves thought that we needed to regain our position as product leaders. We believed we'd lost that.*

Lammhults Möbel thus considered the Volo easy chair to be a possible "identity product", i.e. a product that would, through its product design, help *Lammhults Möbel* to communicate and rebuild its strong brand identity as a producer of innovative products, rather than a seller of large volumes. Moreover, collaborating with a newly selected designer was also considered an important tool in the company's intention to renew its brand identity. As mentioned earlier, *Lammhults Möbel* has chosen to work closely with a small number of designers. Thus, selecting

the "right" designers when adding new designer names is critical. Per-Evert Johnsson says:

> *First, Lammhults Möbel doesn't work with many designers, but during these last ten years, I've tried...it's been my motto not to hire too many designers, but to have a few women and a few men, kind of thing. But sometimes, you have to think about taking on someone new.*

Before meeting with *Lammhults Möbel*, Andreas Störiko had designed and developed a full-scale prototype of an easy chair with no particular manufacturer in mind. Andreas Störiko works with a number of prototype-makers and it was together with those that he defined and built the first Volo prototype. He also put a lot of effort into finding the right leather sub-supplier for the seating because firstly it had to look good but secondly, and more importantly, the leather was at that time the load-bearing part of the chair and was thus important from an engineering point of view.

His way of working, i.e. having a prototype produced that is ready to use even though it is not yet ready for serial production, is something which is unusual according to Per-Evert Johnsson. Andreas Störiko came up with the idea of the easy chair based on his own experience and inspiration; thus, he was not led by the needs or wishes of a potential manufacturer. However, Andreas Störiko stresses that he would never suggest a particular product to a company if he did not believe that it would not either match the company's product range and design image or be a so called "*white elephant*", i.e. a product which is meant to be completely different and which stands out from the existing product range, primarily intended to be a "statement" and not to sell in large volumes. He says that he trusts his gut feeling when recommending a product to a potential producer. He also stresses that, to him, it is important not to suggest the same design solution to more than one manufacturer, he explains:

> *It has been the case that a really good customer has said "This aluminium foot is so wonderful, is it possible to use it for other products too?" "It's really sad when you have a good business relationship and they'd make a lot of profit by using this for other products. But I've said no. They were really angry with me. But in the long run, I believe that they aren't so upset...There's a reason why Lammhults Möbel has to have its own specific appearance, and you keep it separate.*

Andreas Störiko also says that, in the case of this easy chair, he would have been prepared to develop and make the product himself if he had not found an interested manufacturer. However, he feels that a strong producer is most often needed in

order to create a breakthrough on the market, i.e. it would be difficult for an independent designer to launch a product successfully.

Åke Jansson explains that, besides the decision regarding the product itself, a critical part of the decision to collaborate around Volo was designer Andreas Störiko himself, whom Åke Jansson describes as an experienced and skilled designer:

> *Well, we felt that Andreas was important as a person. We wanted to do something in collaboration with Andreas. First, it's the product as such that makes us decide that this is so distinguished that we'd like to start up a project and that it suits us. But secondly, it's also when you meet a designer that you...you want to collaborate with. And that's very, very important. That is, finding skilled designers is critical for us, it's essential for our business success. And that's why it's important for us to show that we want to accommodate the designer's wishes and share the risk with him, and develop a product from an idea that he has generated.*

Also, Andreas Störiko's collaborative skills seem to have been important for the company's choice of designer. It is mentioned several times during the interviews for the Volo case, both by the designer and by *Lammhults Möbel,* that the intention was to form a long-term business relationship with the designer, with the word "family" being repeated several times. Per-Evert Johnsson says:

> *Well, it's like you're going to start living in a family, you have to accept things and be together...within the company culture. If the person is very arrogant, that'll never work out.*

Naturally, the product itself was also important. Per-Evert Johnsson states that, in the case of Volo, he hesitated a little about this particular product idea. However, he also says that the decision was based on the intention to find a product that would supplement, and not be in conflict with, the products of the other designers working for *Lammhults Möbel*. Once again, the word family is mentioned. Per-Evert Johnsson says:

> *I was a bit hesitant regarding the decision to develop that product because it's just as much directed at the home segment as the office segment and we're almost 100% office. But, then there's always this game between the designers, it's like a family, "well, why can he do that and not me", so I decided to...well, let's bring Volo in as it won't disturb any other designer. So he can be brought into the family, so to speak. And feel comfortable. It's (laughing) a lot like that, too.*

However, Per-Evert Johnsson explains that Volo met his criteria for a product developed by *Lammhults Möbel*: *"It was well-made, elegant, clever and full of detail"* and that *Lammhults Möbel's* products, as did Volo, should have an intrinsic value that *"makes people stop and have a look"*.

Per-Evert Johnsson says that most of the time there are product specifications, e.g. regarding cost, the environment, and functionality requirements, issued by the marketing department in written form and sent out to the selected designer when new products are to be developed. However, in the Volo case, as the product prototype had been presented by a new designer, this would not be necessary, according to Per-Evert Johnsson. Instead, the decision to start developing was taken during a management meeting. Moreover, in the Volo case, there was more of a general "*feeling*" about what price level the final easy chair would be on, while in other cases, there are more detailed written instructions regarding cost restrictions.

Per-Evert Johnsson says that often it is he, together with the designer, who develops a prototype/product and then presents this to the marketing department. This was also done in the Volo case and, according to Per-Evert Johnsson, Andreas Störiko was involved in meetings with the marketing department, but this is not really mentioned by the designer himself.

Volo went through a lot of changes from the initially proposed prototype during the collaboration between Andreas Störiko and *Lammhults Möbel*. Several prototypes were built and rebuilt during the process as a way of visualising different alternative design solutions resulting from discussions about production restrictions/opportunities and visual appearance ideas. The different prototypes were never displayed externally, e.g. to customers, instead only being discussed internally between the designer, product development, and the management of *Lammhults Möbel*. Per Ljungblad says that *Lammhults Möbel* has very good possibilities of producing prototypes at its own facilities. Andreas Störiko was involved in the development of the product on a very detailed level down to discussions about components right through the process. This way of working, i.e. the designer being closely involved right through the development process, is the way *Lammhults Möbel* usually develops its products, according to Per-Evert Johnsson:

> *Yes, that's the usual way. All our designers are involved right through the project and are allowed to have opinions and to participate. So, it's not like they just deliver a sketch, no, they're involved right the way through. Then you make prototypes and they come and see them and then...you go on.*

Per-Evert Johnsson describes his role in the Volo case, and generally, as that of a "coach" who understands and translates the ideas of a designer into a concept that is possible to produce:

> *Ever since 1975, I've been trying to read what the designers want to produce. Sometimes, it's not 100% like you saw on the sketch, but you have to make it so good that it's possible to produce and the designer thinks it's ok. Sometimes, you have to change something to make it work.*

Per-Evert Johnsson also says that the changes he suggests may also be based on his own skills and experience in product design, i.e. it is not only the functional aspects that he is interested in. One such situation arose early on in the Volo project when Per-Evert Johnsson suggested an important change away from the original solution, with leather as the load-bearing part of the easy chair, towards an upholstered design solution for the seat instead. His intention in suggesting this change was to create a "lighter" impression, i.e. this was an aesthetic change:

> *Well, the whole shell of the easy chair was in leather. Then I told Andreas that it looked sort of compact and that I thought he should lighten it by making a frame and putting a net...in it. So it became more airy and you can see the product from all sides, sort of through the easy chair itself. So...Andreas thought that we should make a prototype and that he thought so too, when I told him.prototype. And that is how it turned out in the end.*

Andreas Störiko emphasises the importance of having a good and straightforward decision-making process, as was the case when Volo was being developed. He says that as the process is complex, with lots of decisions, it might be an advantage to work with a smaller company and with only a few people involved in the development process. Andreas Störiko says that the general view among designers is that a listed company is stressful and commercially-focused, but that his impression of *Lammhults Möbel* is different. He explains:

> *When working with a company that's listed on the stock exchange, everything has to progress quickly and it's very focused on profit etc. But I haven't gained the impression from Lammhults Möbel that...they've taken their time...and seen to it that it gets finished....*

Andreas Störiko also says that his role as a designer may differ depending on how much he has collaborated previously with a manufacturer. He further says that, at *Lammhults Möbel*, he was less involved in strategic matters, while he held other

positions with more influence, e.g. as regards how the company acts, sells and presents itself, when working with another German company that he has known for a long time. He explains:

> *I believe that the role...you may not take on the role of leader and visionary or tell them how the portfolio should be when you start up a new collaboration. But I was able to grow over the years, I can imagine that other designers at Lammhults Möbel, working with the company for a long time...I believe that they have an intention and an idea regarding how it should be as a whole and how you create the brand and that they know the design companies well. I think that this is an important ingredient, that you're involved in those areas as well.*

Andreas Störiko also thinks there can be a synergy effect when a designer matches the manufacturer well and collaborates well. He also says that it is difficult for a company to develop products without any knowledge of design:

> *I think that it could be the greatest designer ever who collaborates with a company without a clue and there will never be anything wonderful coming from it. You only get that if you have a certain amount of knowledge about handling it.*

In the *Lammhults Möbel* case, he thinks the company has experience and potential, and thus the collaboration around Volo worked out well. However, he mentions that the situation can change quickly, e.g. when individuals at the company take on new jobs: *"You should never say that certain companies work like that"*.

5 SUMMARIES OF THE APPENDED PAPERS

The outline of this doctoral thesis was presented in Chapter 1. Below, brief summaries are provided of the most important findings in the appended papers. In Chapter 6, the findings from the appended papers are further elaborated upon and discussed in relation to the research questions.

5.1 Paper A: The interplay between design and marketing: a general model

The purpose of this paper is to examine and discuss the interplay between design and marketing at companies, i.e. how and why a company's different approaches to design and marketing work together. The research is based on qualitative data from in-depth interviews with executives at furniture manufacturers and at a car manufacturer. An empirically- and theoretically-grounded model of possible combinations taken from different design and marketing approaches was developed, into which the studied manufacturers were located. The positioning of the companies illustrates that they do indeed work differently and that different combinations are preferred by different companies. This paper is mainly linked to research question R2 regarding how companies balance their commercial and creative interests during product development.

5.2 Paper B: The relationship between design sourcing strategies and the desired company brand image

This paper aims to explore how design-led companies, i.e. "companies characterized by a dominant logic that views design as central to [their] strategic positioning" (Beverland & Farrelly, 2007), source external design resources. It also aims to explore whether and how different sourcing strategies regarding these resources are related to these companies' design philosophy and desired brand image, i.e. how the company is perceived externally by customers etc. The paper builds on in-depth interviews with managers from six Swedish furniture manufacturers. A tentative model of the relationship between companies' design sourcing strategies and their desired company brand image is presented and discussed. This paper is closely linked to research question R3 regarding how companies' source and cooperate with design resources during the new product development.

5.3 Paper C: New product development in design-led organizations. Insights from the Swedish furniture manufacturing industry

The purpose of this paper is to investigate how a design-centric logic affects the early phases of new product development. Five product development projects were studied at two companies. The research findings are synthesized into a tentative model of the relationship between the different aspects of an organization's design-

centric logic and its practices during new product development. This paper is closely linked to research question R1 regarding companies' development of design products.

5.4 Paper D: The applicability of integrated solutions offerings: Differential effects of product complexity

The purpose of this paper is to develop a conceptual model of the influences of product complexity on the applicability and adoption of solution offerings as a marketing strategy. Qualitative data from in-depth interviews with executives at furniture manufacturing firms were investigated and a conceptual model was developed. Based on the findings, a model of the relationships between the different aspects of complexity and solutions is proposed and an expansion of the complexity concept is also suggested whereby the "aesthetic complexity", e.g. between a large number of elements with a high level of interaction in an interior solution, is also included. For instance, instead of understanding the term "integration" from a functional point of view, it becomes an issue of "aesthetic fit" here (Bloch, 1995) between elements, e.g. furniture that goes well together in these solutions, which should fit not only in terms of size and function, but also in visual appearance. This paper is linked to the overall purpose of this doctoral thesis, and also provides an empirical background.

6 SYNTHESIS AND DISCUSSION OF RESEARCH FINDINGS

In this chapter, the research findings both from the appended papers and from Study 4 will be synthesised and discussed. The three research questions, which were derived from the purpose of this thesis, will be answered one by one.

6.1 The characteristics of companies' development processes for new products

The first research question concerns the characteristics of companies' development processes when developing new products that have an important dimension of visual aesthetics. In this chapter, the cases presented in Chapter 4 will be analysed and discussed in order to gain a deeper understanding of the studied development processes and the similarities and differences found between the different cases. The structure of this chapter will follow the different development process stages described in Chapter 2, i.e. firstly idea generation, secondly idea screening, and lastly concept development and testing. Besides the findings from the studied product development projects in Study 4, the analysis will also include and discuss relevant findings regarding the product development process found in Studies 1-3, presented in the appended papers. Last in this chapter, an answer to the first research question, RQ1, will be presented.

6.1.1 The Idea generation phase

A cross analysis of the findings from Study 1-4 reveals some areas of interest where the influence of an important level of visual aesthetics in products is present.

Idea generation in relation to product planning

The findings from Studies 3 and 4 reveal that, from the manufacturer's perspective, product ideas are only slightly led by an intended product strategy, e.g. formulated in terms of target markets, value propositions or product functionalities, as has been suggested in the product development literature (Bonner et al., 2002; Smith & Reinertsen, 1998). Naturally, emergent product ideas may exist in any industrial context, but what is different in the studied cases is the fact that, due to the characteristics of designer products and the creative artistic input of the designers, the emerging ideas make up part of an intentionally flexible product development process whose importance is emphasized by managers. There is an explicit focus on exploring any good product idea, which often overrules an intended product strategy. Such a need for flexibility in idea generation when companies are developing products, due to a high level of visual aesthetics and the necessary artistic input of designers, is not emphasized in the product development or marketing literature. However, there is a possible parallel between the idea generation phase in the studied cases and descriptions in the literature (see e.g., Veryzer, 1998) regarding discontinuous innovations in a technological context. In

both these contexts, the end result is difficult to foresee – either as a result of innovative artistic design or as a result of technologically innovative products.

The above-mentioned need for flexibility during idea generation, i.e. the possibility and intention of changing already made product plans, is emphasised by managers during several interviews in Studies 3 and 4. According to the CEO of *Lammhults Möbel*, an "outside-in" view on planning, i.e. products are initiated by ideas from outside the company, is characteristic of designer furniture companies. In support of this, the CEO of Company A in Paper C means that documentation, e.g. written product plans, might restrict his company's freedom to change; therefore, he refuses to put such documentation before his board. Also, the CEO of Company B in Paper C, which is a major furniture company, explains that the company does indeed document its product plans, but this CEO also strongly emphasises the necessity of always being open to new ideas that might lead to new and interesting products.

However, Study 4 shows some differences between the studied cases, whereby idea generation and evaluation in the cases at *Lammhults Möbel* is more based on intentional plans than the cases at *Karl Andersson & Söner*. The CEO of *Lammhults Möbel* talks about an intention to move towards a more systematic product development process, and thus moving away from being a producer of designers' independent product ideas and towards being more proactive and commercially driven, e.g. by initiating the process through evaluating and quantifying market needs. However, this intention is not visible in the studied cases, where little market research has been conducted. Still, compared to *Karl Andersson & Söner*, the cases at *Lammhults Möbel* indicate a more planned kind of idea generation, based on strategic intentions. First, the Addit case is based on the company's intention to use an existing innovative technological solution and, second, the Volo easy chair is based on the company's intention to change its brand image by hiring a new designer. The CEO of *Karl Andersson & Söner* explains that he has categorized *Karl Andersson & Söner's* existing product portfolio into different product types and intends to find and fill any gaps in the portfolio, i.e. to follow a product plan. Moreover, the CEO of *Karl Andersson & Söner* describes the importance of being able to offer a broad range of products, in order to satisfy the buyers' different needs. However, the CEO also states that product plans are often changed when raising product ideas are promising enough, as was the case for both Steelo and Level. A lot of plans are changed due to arising "opportunities", e.g. product suggestions being sent in to the company by different designers.

One explicit intention at the studied companies, which also affects idea generation and idea screening, is these companies' objective of presenting a number of new

products every year, e.g. at fairs, thus showing, for example, potential buyers, peers, and the media that they are constantly innovating. The importance of gaining media attention and the recognition of peers, e.g. at furniture fairs and by winning design awards, is strongly emphasized by the managers during interviews in Studies 3 and 4. This supports the suggestions of Entwistle (2009) and of Gemser and Wijnberg (2002) that receiving attention through different events and awards is an important issue in the value creation of designer products. By means of media attention and the attention of peers, e.g. interior designers and competitors, potential buyers are assisted in judging and perceiving the value of the design innovation; thus, this kind of attention is crucial to manufacturers. However, managers in Studies 3 and 4 describe their constant search for new products as problematic as it may lead to high product development costs and difficulties managing product portfolios in an effective way. Also, the managers say that the constant search for innovation through visual aesthetics may, as suggested in the literature (Person et al., 2008), be in conflict with the search for brand recognition through consistency, i.e. whereby the visual aesthetics of new products are instead somewhat similar to existing product ranges. The findings from Study 3 present examples of these different intentions of the companies, i.e. while a number of designer furniture manufacturers are striving for a more complete product range and more consistent product design, other manufacturers instead see their products as independent, without necessarily being a part of a complete range and lacking common design characteristics.

Sources of ideas

The product development literature (e.g. Booz, 1982; Trott, 2008) suggests a number of possible external sources of product ideas, e.g. explicit customer needs and new technology. The findings reveal that a critical source of product ideas in the studied cases is the external designer who, e.g. in the Volo, Addit and Steelo cases, performs the initial idea generation without any previous involvement on the part of the manufacturer. Thus, instead of generating product ideas internally, manufacturers often find and select ideas among product suggestions submitted or presented by designers, or among product ideas exhibited during fairs. As mentioned above, several managers describe their constant search for product ideas and value their flexibility in relation to existing product plans. This is understood to be related to the important dimension of visual aesthetics in products, making them unique and dependent on artistic input from a specific designer as opposed to more functional designer input (Utterback et al., 2006). Additionally, not only are the products unique, the designers are too, because of their personal reputations and as a result of their particular artistic design skills. The situation thus differs from innovation in

other industrial contexts, e.g. technological innovations, where the designer/developer per se is often exchangeable for somebody else. Such uniqueness, and the related idea generation by independent design resources, is something that is connected to a high level of visual aesthetics in the products and not much discussed in the product innovation literature, even though it has been noted that the engagement of external designers brings in "a fresh flow of product ideas" (Walsh, 1996).

However, there are differences between the various cases in Study 4. As previously mentioned, in the Volo, Level, and Steelo cases, the designers generated product ideas without a specific manufacturer in mind, presenting their ideas to manufacturers at fairs or during meetings. In contrast, in the Addit case, the product idea was generated by the designer and manufacturer on the basis of a proprietary technical solution. Here a contextual factor making an impact was the manufacturer's long-term relationship with the designer, which led to more involvement and collaboration between the two during idea generation as well. Also, in the Mill case, it was the CEO of *Karl Andersson & Söner* who generated the initial product idea, sent out an assignment outlining the overall product requirements, and chose between the submitted proposals from a number of designers.

Thus, in contrast to the streams in the product development literature describing idea generation as market-/customer-led, i.e. focusing on creating value for customers' explicit or implicit needs and desires (Berthon et al., 1999; Jaworski & Kohli, 1993; Slater & Narver, 1995), product idea generation during the selected cases is described instead as market-driving (Jaworski et al., 2000). During the interviews, managers did not describe idea generation as based on explicit customer needs, market research or the companies' intentions to follow trends or copying ideas from other sources. In contrast, the importance of avoiding getting too close to existing design solutions is emphasized in the interviews. Idea generation may be understood as an example of a design-oriented development process, as described by Verganti (2008), where it is not market demand that pulls new product ideas but an interpretation of the needs of the surrounding culture and society, mainly performed by designers in the studied cases. Similarly, the lack of importance found regarding customer/market influence is present in Veryzer's (1998) description of development processes for discontinuous innovation. Veryzer (1998) is of the opinion that early commercialisation activities, e.g. business opportunity assessments, is not constructive and might even hinder radically new product ideas.

However, a slightly different type of customer orientation is indicated in the findings from Study 1 (Paper D). Here, in contrast to the above-presented

observation that market or customer demands have little influence on the development of designer products, one prime, basic feature frequently mentioned regarding the solution type of offering is that it is tailored or customized to the specific needs and desires of specific customers (Miller et al., 2002; Sawhney, 2006). As argued in Paper 4, furniture is a complex product, due to its aesthetic characteristics; this type of complexity may lead to customer interest in the solution type offering. Somewhat differently from other contexts, the solution type offering exemplified in Paper 4 includes a combination of different types of furniture, e.g. in terms of a collection of furniture or of an interior design solution. This combination is complex in terms of aesthetic fit, i.e. the different pieces of furniture have to fit together and/or have to match the customer's existing furniture or interior. Thus, the different pieces of furniture may, as argued above, be independent of customer or market needs, while the company may still strive for customisation when creating a solution type offering, e.g. the interior design solution. Also, the empirical data in Paper D bears witness to the importance of being able to offer customized solutions in terms of, for example, alternative materials or paintings. Thus, customer orientation is not always absent from the studied companies, but often becomes relevant at a later stage when combining the already developed product into an interior solution or customized adjustment.

6.1.2 The idea screening phase

The aim of the idea screening phase is to select the best ideas, i.e. to "predict the winner" among several generated product ideas (Cooper, 1979). Cross analysis of the empirical findings from the studied cases reveals two areas of interest during this phase, which will be discussed below.

The evaluation of designer products

Screening includes the evaluation of ideas generated internally by the manufacturer as in the Mill case, internally by the manufacturer and the designer as in the Addit case, and evaluation of the different product suggestions by designers being either submitted to the company or discovered at, for example, furniture fairs, as in the Steelo, Level, and Volo cases. In the studied cases, idea screening was performed internally at *Karl Andersson & Söner* and *Lammhults Möbel*. The engaged designers are not involved so much, except in the Addit case, where the designer has a long-term relationship with the manufacturer and thus also says that she is involved in more strategic matters such as the evaluation of different product ideas.

The findings from Study 4 reveal that the manufacturers often performed their initial idea screening based on the designers' presentations of the initial 3D drawings

or prototypes. That is, the product idea is often visualised at an early stage and the findings from Study 4 show that the designer often makes an initial prototype of the product during the idea generation phase in order to be able to present this to interested manufacturers, e.g. at fairs or meetings. The early prototyping is understood as a consequence of the high level of visual aesthetics, making it difficult to understand and evaluate the product without visualisation. For instance, the CEO of *Karl Andersson & Söner* mentions that it is difficult, even with prototypes, to involve, for instance, marketers during evaluation as they cannot easily understand what the final product will look like. Veryzer (2005) suggests that early visualisation is necessary during the development of new products where a distinct product strategy is difficult to formulate and the resulting product is difficult to foresee but needs, instead, to be "formulated and explored". However, Veryzer (2005) bases this on studies in a technological context where the uncertainty is related to the functional aspects of a product, whereas the findings from Study 4 show that such early prototyping is also critical in a design product context.

Differing criteria for product evaluation were found in Study 4. One criterion mentioned is the manager's own assumption that the selected product will maintain/strengthen the company's market position. However, no structured market research, e.g. studies of potential customer interest, was performed during this stage of the studied cases, besides for Addit, where the designer describes searching for potential competing products in order to avoid a similar product idea. Also in the Addit case, the designer describes a formal decision-making meeting involving the designer as well as the CEO, the product development manager, and the then marketing manager. The designer described this decision as based on, for example, the product's fit with the existing product range and design strategy.

Moreover, supporting the suggestion by Karjalainen (2010), the CEO of *Lammhults Möbel* mentions that some products are developed not primarily to sell in large volumes but to be "flagship products", i.e. creative products that stand out from the rest of the product range, as a means of communicating the company brand. According to the CEO of *Lammhults Möbel,* launching such "flagship products" is a way of communicating with the market but additionally, not mentioned by Karjalainen (2010), the CEO also describes them as an important way for *Lammhults Möbel* to show its peers, e.g. within the designer community, that it is a design company genuinely concerned about artistic values relating to design. As mentioned earlier, the importance of peer recognition is suggested by Entwistle (2009) to be part of the value creation of design products. Also, another evaluation criterion mentioned by the CEO of *Karl Andersson & Söner* is the internal production skills of the company and the available production facilities.

The findings reveal that, besides the above-mentioned evaluation criteria, the tacit gut feeling for "good" design is most critical in managers' evaluations of product ideas. This feeling is based on their deep knowledge of product design and their values, which are difficult to articulate. In the case studies, the CEOs of *Lammhults Möbel* and *Karl Andersson & Söner* both revealed great confidence in their own ability to judge "good design", i.e. they rely on their ability to select successful products without having to refer to, for example, market or customer needs or the opinions of peers. The importance of tacit knowledge in the evaluation of good design ideas has been suggested in the literature by Entwistle (2009). The CEO of *Karl Andersson & Söner* emphasizes the importance of producing furniture that "they like themselves", saying that "others may like it or they may not".

The CEO of *Lammhults Möbel* describes a future intention to become more market-driven, emphasising the importance of communicating *Lammhults Möbel* through its products. However, he also describes how important it is for the company to be "genuine" in its design interest. The CEO describes a difficult "balancing act" during idea scanning, between the commercial and artistic interests, as well as his own difficulties when trying to discuss more direct market influences internally. According to him, many people at the company are concerned about doing things that they like themselves and about not being "untrue" to themselves, i.e. making products for commercial reasons. In contrast, managers from the smaller companies, e.g. *Karl Andersson & Söner*, does not describe such difficult balance between different opinions. Instead, the CEO of *Karl Andersson & Söner* describes the importance of developing products that he "likes himself", without mentioning explicitly that this is something he sees as problematic. These differences might be a consequence of smaller family-owned business *Karl Andersson* being able to act more freely and generating profit in the longer term compared to *Lammhults Möbel,* which is group-owned and larger. However, *Lammhults Möbel's* intention to be more commercially-driven is not really present during idea screening in the Volo case. Instead, a feel for good design is mentioned as being important.

The evaluation of design resources

One finding from Studies 3 and 4 is that, due to the uniqueness of the product and the artistic input by its designer, the screening phase may also, besides the evaluation of product ideas on the basis of the different criteria mentioned above, be closely related to the companies' intentions to engage a particular designer or to maintain an existing good relationship with a designer. The sourcing of design competencies is discussed in the literature, e.g. by Bruce and Morris (1998), with a focus on product design's functional dimensions, and by Dell'era and Verganti

(2009) with a focus on design-intensive industries and companies' innovative capacity related to the number and nationality of the designers. In addition to existing studies, the findings reveal that the sourcing of design resources is often closely related to companies' screening of product ideas, and vice versa.

In Study 4, *Lammhults Möbel* describes its striving for long-term relationships with a number of designers; the findings show that their intentions to create and maintain such relationships influence the idea screening process. For example, the managers of *Lammhults Möbel* explain that the different designers working with the company have their "own" category of products, e.g. sofas, within the *Lammhults Möbel* product range, i.e. normally only one designer is under contract for that particular category of product. The managers of *Lammhults Möbel* further describe seeking to avoid causing the "cannibalization" of another designer's previous products. Consequently, they explain that, when hiring a new designer, as in the Volo case, it is important to find a product category that does not interfere with the products of the designers they are already collaborating with. Hence, in the Volo case, the screening and selection of designers was as important as, or even more important than, the actual composition of the product portfolio. In contrast to *Lammhults Möbel*, *Karl Andersson & Söner* has shorter-term relationships with a larger number of designers and these designers are often engaged to create only one product, which leads to differences in the product screening process. The findings show that in the Mill, Steelo, and Level cases, the selection of a designer was a consequence of screening different product ideas and selecting a particular product. In the Mill case, where *Karl Andersson & Söner* sent the design assignment to a small, select number of designers, the designer evaluation was performed as the recipients of the assignment were selected. However, during the product screening phase, it was the product per se that acted as the basis for the final decision, and not the designer. Thus, differing characteristics of the manufacturers' relationships with designers, e.g. longer or shorter term, led to differences during the idea screening processes of the studied cases, whereby a longer term relationship led to the designer evaluation being more closely integrated with the product idea screening.

6.1.3 The concept development and testing phase

The empirical findings from the different cases reveals that activities during the development of product concepts have several similarities. Concept development, which follows the phase of idea screening, is performed in close collaboration and a number of different prototypes are developed and evaluated by both the designer and the manufacturer.

Concept development using prototypes

In line with what has been suggested by Takeuchi et al. (1986), Study 4 reveals that the different phases, i.e. idea generation, idea screening, and concept development and testing, is sometimes overlapping and that the process may also be iterative. In the literature, the concept development phase is described as the stage where the product opportunities become tangible and obtain their final form (Trott, 2008), but in contrast to this description, the findings reveal that designer products are also visualised as early on as during idea generation Thus, the product ideas in the studied cases are tangible even before the beginning of the idea screening phase and the ensuing product concept development. However, the findings show that visualisation using prototypes is also critical in the studied cases during further development of the products whereby several different prototypes are produced and evaluated. Not only are the prototypes emphasized as important regarding the collaboration and dialogue between the designer and the manufacturer, but also regarding the communication of the future product to other internal functions, e.g. sales. As mentioned previously, due to the important dimension of visual aesthetics, but also related to the functional dimension of the product, it is difficult for people not involved in the development process to foresee the resulting product without a prototype. In spite of the possibility to produce excellent digital 3D drawings, or sketches, making several prototypes was critical to the creation of designer furniture in the studied cases.

Collaboration between managers and designers

The findings from Study 4 show that the development of the product concepts was performed, in all the cases, via close collaboration between designers and managers and characterised by an iterative process featuring much digital and personal communication between the two. As mentioned above, several different prototypes were produced during the concept development stage in order to make it possible to visually evaluate the potential product concepts. Evaluation and adjustment of the different prototypes mentioned above, e.g. regarding factors such as visual appearance, production issues, and cost issues, was carried out via close collaboration between designers and managers.

Overall, the findings reveal that concept development in the studied cases is a highly creative phase during which the initial product idea may undergo important changes, e.g. in terms of its visual aesthetics. The risk of having a "moving target" (Smith & Reinertsen, 1998), i.e. a product development process that does not stick to the original product intention but tends to result in another final product, was not regarded as a problem in the studied cases, but as a natural ingredient of product

development work, with flexibility being praised as important by both designers and manufacturers during the interviews. The importance of flexibility in relation to the initial product ideas is understood in terms of being related to the creative and artistic design work carried out during the creation of the studied products. Moreover, the designers also emphasise the importance of the managers' willingness to experiment, e.g. in the Mill case where the designer was surprised by the suggestion from the CEO of *Karl Andersson & Söner* to mill down the table surface as this is very unusual. Related to this, the designer involved in the Mill case says that one part of the designer's role is being provocative, i.e. that it is important to challenge the managers' opinions, e.g. on design issues, thus making them "think out of the box". Moreover, in the Mill case, the managers' ability to make fast and definite decisions is mentioned as being critical to successful development projects.

The findings from the studied cases also reveal that the close collaboration and trust between the designer and the managers lead to interaction in issues related to the visual aesthetics of the product. For example, the manufacturer's opinions on the appearance of the product in the Steelo case was appreciated and valued by the designer, who states that the manager, with his "good eye for design", was a valuable "filter" which actually helped the designer to sort out the best solutions, from a number of different possibilities, and to "question himself" and his design idea. In the Volo case, too, managers were very involved in visual appearance issues, e.g. when suggesting how the back of the product was to be designed. Thus, there are several examples of situations wherein the visual appearance of the product was discussed, sometimes when there were conflicting interests between the designer and the managers. In the studied cases, the differences of opinions, e.g. regarding the best product appearance, were solved through compromise, and the designers and managers were both willing to discuss and negotiate in order to find the best solution. For instance, the manager at *Karl Andersson* describes his intention to foresee any potential conflicts of interest between himself and the designer and to thus be able to present his ideas in a way that minimises the risk of conflict. However, besides their intention to negotiate and find compromises, the designers in, e.g. the Mill case, also point out the important risk of compromising too much as this may lead to the product losing its "soul", i.e. the risk of artistic creativity being overruled by managerial interests. Instead, the designer of Mill emphasises the importance of believing in, as well as maintaining, one's original idea in order to not risk losing the original product design idea per se.

6.1.4 Summary of the empirical findings

As a summary of the previously-presented descriptions and analyses of the studied product development projects, Table 6.1 displays the major case specifics and similarities found in the different cases. The companies' relationships with the various designers differ from case to case as these are either on-going, long-term and close, on-going and more distant, or the result of new collaboration. Also, it was found that the cases differ as regards how and by whom the initial product idea was generated. Moreover, the cases also differ in terms of how and why the designer was selected and as regards the nature of previous collaboration between the designer and the manufacturer. There are also a number of similar characteristics regarding the different development processes, as displayed in Table 6.1. First, idea generation is only slightly led by fixed product plans. Second, in all cases, the generation and evaluation of product ideas is closely related, i.e. difficult to separate, to the selection of a designer. Third, product evaluation has some similar characteristics in that it is not market-led, rather it drives the market, and, moreover, it is also based on the intention to gain peer and media attention and recognition. Evaluations of products are, in all cases, very much based on managers' confidence in their own knowledge of potentially successful products. Fourth, in all cases, the visualisation of the product, e.g. by producing several different prototypes, was highly important for evaluating and testing the product idea, during the early phases of the projects, too. Last, concept development was characterised in the different cases by close and trustful collaboration between the manager and the designer, leading to fruitful discussions and experimentation.

Table 6.1 Major case specifics and case similarities of Study 4

	Case Specifics	Case similarities
Mill	Previous collaboration and arm's length relationship with designer. Product development on basis of manager's product idea. Assignment, i.e. product description and request for proposal, sent to several designers with an existing relationship.	Generation of ideas is flexible in relation to product plans. Generation and evaluation of product ideas is closely related to selection of designer. Product evaluation is based on managers' confidence in their own skills in design and only slightly influenced by market demand. Generation and evaluation of product ideas is also based on managers' intentions to gain peer and media attention. Visualisation through production and evaluation of several prototypes is an important tool for concept development and testing, but also during earlier phases, e.g. idea generation. Concept development is performed via close collaboration between designer and managers.
Steelo	No previous collaboration with designer. Product development on basis of designer's drawings. Designer approached manager to seek collaboration regarding development of product. Selection of designer a consequence of selecting product.	
Level	First, collaboration with the designer. Product development on basis of designer's full-scale prototype Manager discovered product at furniture fair Selection of designer a consequence of selecting product.	
Addit	Previous close and long-term relationship with designer. Product idea generated on basis of existing, proprietary technical solution. Selection of designer performed on basis of the few designers with whom the company has long-term relationships.	
Volo	First, collaboration with designer with express intention of having a long-term relationship. Product development on basis of designer's full-scale prototype. Selection of designer based on intention to take on a new designer and thus influence company brand.	

6.1.5 Answer to RQ1 – the characteristics of the product development process

The findings presented in this chapter reveal some special characteristics of the new product development process relating to the important dimension of the visual aesthetics of products. First, the important dimension of products' visual aesthetics leads to a demand for the artistic design skills that generate a potentially successful product and for the continuous evaluation of the product during its development process so that it will retain its high aesthetic quality. Moreover, the important dimension of visual aesthetics influences the generation and evaluation of product ideas in that peer recognition and media attention become more critical. The discussion and summary previously in this chapter leads us to the following answer to RQ1:

- Idea generation is often only slightly related to existing product plans and is instead the result of emerging opportunities, e.g. discovery at fairs or as a consequence of collaboration with a particular designer. This flexibility in relation to plans is both intended and sought by managers in the studied cases.
- Due to the artistic skills brought to bear by the specific designer, the generation and evaluation of product ideas is closely related to selecting the designer. That is, in the studied cases, the products are the result of the designer's unique ideas; thus, the consequence is that the manager's selection of a particular product idea leads to collaboration with that product's specific creator. Thus, the evaluation of the product is dependent on the selection of the designer, and vice versa. The sourcing of the designer will be further discussed in the analysis of RQ3.
- The studied products are market-driving rather than market-driven, i.e. the findings indicate that, often, idea generation and evaluation is not primarily based on market demand, competitors' products, or existing product trends. Instead, the generation and evaluation of ideas is based on the designers' and manufacturers' own skills in design.
- The perceived value of design products is very much influenced by peer recognition, e.g. in terms of design awards, and media attention. Thus, in the studied cases, product idea generation and evaluation has also been performed with consideration to peers and media.
- Due to the important dimension of the product's visual aesthetics, the need exists to visually evaluate the products early on. Thus, the production and evaluation of several prototypes, also during the early phases of the product development process, is valuable and necessary.

- In order to handle the necessary balancing of commercial and creative imperatives, further discussed in Chapter 6.2, concept development is performed by means of close and trustful collaboration between the designers and managers during the development process.

6.2 The balance between the commercial and creative imperatives

The second research question is concerned with the balance between the commercial and creative imperatives during the development of new products that have visual aesthetics as an important dimension. In this chapter, the findings from the appended papers and the cases presented in Chapter 4 will be discussed. Last in this chapter, an answer to the second research question, RQ2, will be presented.

6.2.1 Companies' different approaches to design and marketing

An empirically- and theoretically-grounded model of the possible combinations of companies' different design and marketing approaches, i.e. varyingly self-/public-oriented and varyingly product-/market-oriented, into which the studied manufacturers were positioned was developed on the basis of the findings in Study 2 and thoroughly discussed in Paper A. The positioning of the studied companies illustrates that they do indeed work differently and that different combinations are preferred by different companies. Four different combinations were indicated in the findings:

- The first combination is labelled 'design-led marketing', indicating that both the marketer and the designer want the design function to lead the marketing. The designer is allowed here to work independently of marketing requirements, and this may lead to truly innovative products in terms of technology and aesthetic design. The risk of conflict is minimal because the orientations of both functions are in line with each other. In this situation, product design may not be particularly responsive to marketing, but typically it has a very distinctive character.
- The second combination is labelled 'marketing-led design'. Here, the primary goals and common interests of the marketer and the designer are about fulfilling market needs. The designer is responsive to marketing needs and is not rigid in what he/she wants to accomplish, other than to attract the public at large (Hirschman, 1983). Marketing is not responsive to the designer, rather to the needs of the customers, and to changes in the market. Here, the risk of conflict between design and marketing is minimal since the focuses of design

and marketing are perfectly aligned with each other. This collaboration between the functions is thus rather unproblematic.

- The third combination is labelled ‘confusion', whereby neither design nor marketing wants to take the lead. The commercial designer seeks market information with the aim of reaching the public at large (Hirschman, 1983), while the product-oriented marketer waits for the designer's initiative and independent design that may be marketed to the customers accordingly (Grönroos, 1991). Product-oriented marketing is responsive to design and the designer is responsive to the marketing function, but neither function expresses any distinctive requirements.
- The fourth and final combination is labelled ‘conflict'. Here, the marketer wants the needs of the customer, the market, or both, as a whole, to direct the work of the design unit. From the marketer's perspective, design should be the result of marketing investigations aimed at meeting the explicit or implicit requirements of the market.

The findings described in Paper A further indicate that companies actually succeed in combining the above-described different marketing and design approaches. However, the type and relative strength of the coordination of design and marketing appears to be critical and, through different types of coordination, carried out from different perspectives, it is possible to combine different approaches to design with different approaches to marketing.

6.2.2 Balancing different interests during the new product development process

To further elaborate on the findings from Study 2, the balance between commercial and creative imperatives during five different new product development projects conducted at two manufacturers of designer furniture was studied in Study 4.

As described previously, the empirical data from Study 4 reveals that market imperatives, e.g. in terms of customer or market needs, had little influence during the product development process as a whole. Idea generation is seldom systematic in terms of formulating and following strategic market intentions; rather, it is led by emerging product idea opportunities, e.g. prototypes discovered at fairs or otherwise presented by designers. This is in contrast with a stream of marketing and design literature (e.g. Kotler & Rath, 1984), where the importance of product design being led by customers' or users' explicit or implicit needs is emphasised. Instead, during the idea generation in the studied cases, the designers worked independently of market imperatives, corresponding to a design-led marketing approach as

discussed in the section above. Also, the product development literature (e.g. Trott 2008) offers competitors' products and trends a possible important source of idea generation; however, in contrast, the empirical findings reveal that the studied companies only do research on their competitors' products to avoid proximity to existing design solutions.

Neither during the idea screening phase, when the generated product ideas are evaluated and the most suitable ones selected, are market/customer/user needs and wants important for the decisions made in the studied cases. Instead, the managers' confidence in their own ability to judge good design is emphasised as critical during the interviews.

Hirschman's (1983) suggestion, regarding the importance of using peers as an audience for artistic products, also seems to be relevant in the studied context where, for example, the designer community and the designer furniture manufacturer community are addressed by the companies. For example, the CEO of *Lammhults Möbel* says that he seeks to make manifest the company's genuine interest in product design using peers, thus building on *Lammhults Möbel's* reputation as a design company. As suggested by Karjalainen (2010), the CEO of *Lammhults Möbel* says that the launch of "flagship products" is one way of communicating the company brand to potential customers as well as, though not explicitly mentioned by Karjalainen (2010), a way for the company to address its peers and show that it is genuinely concerned about the artistic values of its products.

The findings also verify what has previously been written on how the aesthetic value of design products is judged, suggesting that it is highly affected by peers (Entwistle, 2009), the media (Cappetta et al., 2006), and design awards (Gemser & Wijnberg, 2002). The findings indicate that the end customers of the developed product are in many ways affected by intermediaries, e.g. the purchasing companies are influenced by the advice of interior designers, and, as a consequence, these peers are described as important in the studied cases. Also, the findings indicate the importance of addressing the designer's "self", i.e. the fulfilment of the designer's own preferences. The designers emphasize that, in their work of developing a unique design, it is important not to lose the product's "soul" because of commercial imperatives. Further, the managers also emphasise the importance of the designer introducing such "soft values".

In Paper A, the potential conflicts of interest between the marketers and the designers were discussed and it was suggested that such conflicts would appear different in the different combinations of marketing and design practices. The case studies in Study 4 did reveal a number of different opinions on product design issues between the designer and the CEO/product development manager during

concept development, but they also revealed that such conflicts of interest were, in all cases, easily resolved, being described as a normal, appreciated part of the creative process both by the designers and by the managers. In other words, managers do not impose their opinions on designers, instead negotiating - sometimes explicitly and sometimes using more tacit means. However, the designers strongly emphasised the importance of staying self-oriented, i.e. believing in their initial design idea and staying with it, despite eventual conflicts of interest, e.g. due to marketing or manufacturing issues. Without preserving the initial product design idea, the "soul" of the product could get lost was the opinion of the interviewed designers, meaning that their artistic input needs to be undisturbed, e.g. because of commercial imperatives.

Thus, the empirical findings from the studied cases of developing new designer products show that the creative imperatives, in this context, are of mutual interest to the designer and the managers, thus leading them to reach the necessary compromises. An innovative, unique designer product is a common goal for both the designer and the managers. The empirical data from the cases revealed several situations where a trustful relationship between the managers and the designers was made manifest. Thus, the study reveals that such trust and closeness is not necessarily built on a long-term relationship, as suggested by Bruce and Morris (1994), e.g. in the Steelo case. Instead, it is common interests and goals that lead to a trustful relationship, as well as a belief in both parties' will and competence to achieve these goals. Moreover, in support of Bruce and Docherty (1993), the results reveal that the personal chemistry between the designer and the manager was an important basis for the creation of trust and was thus also important when selecting a designer.

The findings are somewhat different from the often-presented view in the literature, i.e. that tensions between designers and other functions are common as a result of differing interests, e.g. because of diverging views regarding the best level of novelty in the product (Bloch, 1995) or because of "fundamental conceptual differences" where marketers tend to be "objective", i.e. leaning on facts, while design is "subjective", i.e. it leans on an intuitive approach (Svengren Holm & Johansson, 2005). A common interest in a product's critical dimension of its visual aesthetics is one possible explanation for the difference between the findings in this thesis and the literature mentioned. The managers at the companies in Study 4 are determined to use product design as a competitive advantage and are, moreover, experienced in working with designers who have artistic skills.

6.2.3 Answer to RQ2 – the balance between commercial and creative imperatives

The previously-presented discussion in this chapter leads us to the following answer to RQ2 regarding how companies balance commercial and creative imperatives when developing products whose visual aesthetics constitute an important dimension:

- The findings indicate that different companies show different approaches to design and marketing, and to the coordination between the different interests related to these functional areas within the company. The findings also reveal that the studied companies, with their different combinations of such approaches, are still able to develop and sell products successfully.
- It was found that managers and designers are both concerned with commercial as well as creative imperatives during development projects. Moreover, the findings also indicate that, in the studied development projects concerning products with a high level of visual aesthetics, both managers and designers are keen to retain these products' artistic value, expressed in terms of keeping "the soul" of the products.
- It was found that the balance between differing interests is dealt with continuously during the development project by means of close and trustful collaboration between the designers and managers whereby any apparent conflict of interest is discussed and several compromises are made between the differing interests. The common interests and goals, i.e. developing a unique and innovative designer product, lead to a trustful relationship and to a belief in both parties' will and competence to achieve these goals.

6.3 Sourcing and collaboration with design resources

The third research question concerns sourcing and collaboration with design resources during the development of new products that have visual aesthetics as an important dimension. In this chapter, the findings from the appended papers and Chapter 4 will be analysed and discussed in order to answer this question. Last in this chapter, an answer to the third research question, RQ3, will be presented.

6.3.1 Challenges found relating to the sourcing of design resources

As mentioned, one difficulty associated with companies' development of products having an important dimension of visual aesthetics is how to achieve critical design skills. The findings from Studies 3 and 4 show that all the studied designer furniture manufacturers chose to engage external design resources. Products with an important dimension of visual aesthetics are dependent on artistic design skills

(Utterback et al., 2006). Thus, in contrast to, for example, engineering design, the findings indicate that the designers of such products are often unique, i.e. not interchangeable with anyone else and closely related to the designed product. Also, in the studied cases, the designer's name is often presented in marketing communication as it is assumed to be part of the foundation of consumer preferences, as suggested by Gabrielsen (2010). The uniqueness of the designer and the perceived value of his/her name leads to managers' evaluation and selection of a particular designer becoming a highly critical issue, something that is still under-emphasized in previous research into innovation and new product development with an emphasis on functional design. The findings also show that, besides a lack of in-house skills and a will to maintain a "flow of fresh ideas", as suggested by Walsh (1996), companies' decisions to engage an independent designer may also be based, besides the need for design skills, on an intention to communicate the company's focus on design to its peers in order to show that they are "designer friendly", as the CEO of *Lammhults Möbel* put it. By using independent design resources, the manager of *Lammhults Möbel* feels that this company is able to show that it appreciates and values the "designer community", which is judged important when communicating with peers, e.g. interior designers and other designers. This notion is in line with the suggestion by Hirschman (1983) that peers may, for aesthetic products, be an important market or "audience" whose demands the manufacturer seeks to satisfy.

The findings from Studies 3 and 4 show that companies have various overall approaches to sourcing, i.e. the evaluation and selection of designer expertise. These approaches were found to be related to the companies' desired brand image, i.e. how the company brand is perceived externally. A relationship between the designer's personal brands and a company brand has been suggested in the design and marketing literature, e.g. by Hestad (2008), but an intentional strategy such as this when creating a designer portfolio and the influence on the company brand have not been explicitly mentioned in the literature.

Study 4 further explored how companies source designer resources during four different new product development processes. The findings revealed that sourcing activities were dependent on whom the product had been initiated by, i.e. whether it was the manufacturer or the designer who had generated the initial product idea. In the Mill case, where the manufacturer had generated the idea, an assignment was sent to several potential designers; thus, the initial product concept and its designer were selected on the basis of a number of different product suggestions. In contrast, in the Volo, Level, and Steelo cases, the product ideas were generated by the designers independently of the manufacturers; thus, the selection and screening of the product and the designer were done simultaneously. Also, in the Volo case, it

was the idea of initiating collaboration with the designer, Andreas Störiko, and, in doing so, regaining a position in the marketplace as a "leading design" company, that preceeded the idea of launching a particular new product. Last, in the Addit case, the designer of the sofa was a natural choice due to having collaborated with *Lammhults Möbel* for a long time on this type of furniture, as well as having been involved in developing the unique technical solution on which Addit was based. In the Mill, Steelo and Level cases, the choice of designer was, rather, a consequence of the choice of product.

Another finding in Study 4 is that, in the studied cases, it is not only the manufacturer that selects the designer but also vice versa, i.e. the designer imposes selection criteria on the partnering manufacturer as well. Examples of such criteria, mentioned in the study, include financial strength; market reputation, existing product portfolio, and personal chemistry. In the Steelo case, the designer described the choice of potential manufacturer in terms of being based on perceived financial strength, but also, primarily, on the designer's view of the excellent product design gracing *Karl Andersson & Söner's* products, and that company's good reputation. It was also mentioned in the Level case that the designer actually searched for and evaluated various potential manufacturers before choosing to collaborate with *Karl Andersson & Söner*. Moreover, the designer reveals concerns about not suggesting any products to a manufacturer which could potentially compete with other clients' offerings.

6.3.2 Evaluation criteria

The findings from Studies 3 and 4 reveal three different criteria for companies' selection of designers: familiarity, i.e. how familiar the designer is with the company and its industrial context (cf. Jevnaker 1998); the number of designers in the designer portfolio, i.e. if the company prefers to collaborate with large or small numbers of designers; and designer recognition, i.e. if the engaged designers are well-known or unknown to the market. The findings also reveal a number of reasons underlying the companies' selection of designers (Table 6.2), further elaborated on below.

Table 6.2 Characteristics of design resource sourcing and underlying reasons

Characteristics		Underlying reasons
Designers recognition/fame	Low level of recognition	Search for innovative design ideas
		Possibility to "shape" the designer
		No effects of co-branding with the designer
	High level of recognition	Attention-drawing
		Lower risks for poor quality
		Positive co-branding effects
Designer's familiarity with the company	Low level of familiarity	Seeking new talents
		Avoiding lock-in effects
	High level of familiarity	Searching for consistency of design
		Lower risks for poor quality
Number of contracted designers	Few designers	Searching for consistency of design
		Lower risks for poor quality
	Several different designers	Attention-drawing
		Constant search for new talent
		Seeking innovativeness

Familiarity

The first criterion found was familiarity, i.e. how much previous knowledge the designer has of, for example, the manufacturer's strategic agenda, organisation and activities, and whether or not the manufacturer and designer have collaborated previously.

One reason mentioned for selecting a familiar designer relates to the company's aim of lowering the risk to quality. This was, for instance, described by the CEO of *Karl Andersson & Söner* in Study 4, who is of the opinion that a familiar designer facilitates the evaluation of a designer's design skills, and potential future market success. Also, a relationship previously proving successful is described as a way of limiting the number of receivers of a request for a proposal, thus facilitating the evaluation process for the manufacturer. Also, the CEO of *Karl Andersson & Söner* says that the hiring of a previously unknown designer entails the risk of a less fruitful collaboration and, in the end, an unsuccessful product. A good personal relationship with the designer was mentioned in terms of "personal chemistry", as suggested by Bruce and Docherty (1993), and in Study 4, both *Lammhults Möbel* and *Karl Andersson & Söner* emphasized collaborative skills as being important for the

company's choice of designer. *Lammhults Möbel* describes its long-term business relationship using the word "family", meaning that its relationship with its designers is close and functions smoothly.

Moreover, the hiring of a familiar designer is recognised by managers as a way of achieving consistent visual design. *Lammhults Möbel*, tends to engage designers on a long-term basis and has an intention to create consistency in its product range and to communicate a strong corporate brand through its product design. Here, the managers of *Lammhults* mentioned that the designer's knowledge of the manufacturer, e.g. in terms of its design strategy, is an important aspect. Also, at *Lammhults Möbel*, it was mentioned that the designers were dedicated to certain products, i.e. there was one designer specialising in tables, one in sofas etc. Thus, one criterion when engaging a new designer for the Volo case was not to disturb this structure, but to find a product that was a "solitaire", i.e. not within an existing category of furniture.

In contrast, managers also described a number of reasons for engaging less familiar designers. First, this was described as a way to avoid hindering designers' creativity and innovativeness due to an intimate knowledge of the manufacturer, e.g. of the existing product portfolio. Instead, managers said that it was critical for them to continuously search for new innovative and talented designers to collaborate with. This observation agrees with Jevnaker (1998a), who suggests that "lock-in effects", i.e. designers being less creative and limited due to their knowledge of the purchaser, is a risk taken when engaging a familiar designer. Second, managers explained that another reason for engaging unfamiliar designers is the constant search for new talent. Also, the hiring of an unfamiliar designer may be an intentional way to create or regain a brand position, as was the case with *Lammhult's Möbel's* development of Volo. By engaging a chosen but unfamiliar designer, the company seeks to create a brand position that is influenced by the designer's personal brand, as suggested by Hestad (2008).

Number of designers

The second criterion found concerns how many designers the company chooses to collaborate with, i.e. the size of the designer portfolio. This criterion relates to the above-mentioned familiarity since new designers are, by definition, unfamiliar. The study supports the notion of Kristensen and Lojacono (2002) that, while some companies choose to continuously engage new designers and thus work with a large portfolio of different designers, others prefer long-term relationships with just a few.

While some of the studied companies, e.g. *Karl Andersson & Söner*, intentionally act as "design arenas", i.e. as producers of the products of several different

designers, with less of a focus on product design consistency, other companies put some effort into shaping a consistent visual appearance in their products by only working with a few selected designers. Being a design arena, i.e. having the intention to create new products in collaboration with many different designers, is described as a way of regularly garnering attention in the marketplace, e.g. in peers or in the media. By launching new products that are sometimes radically different from previous ones, and by announcing collaboration with a new designer, attention is garnered in the marketplace. As discussed previously in this thesis, the attention of the media and peers is important to design product manufacturers since this is an important part of their products' value creation (Entwistle 2009). When engaging new designers, managers say that they garner attention, due both to the designer's personal brand and to the new and different product per se. Also, the managers explain that their hiring of a large number of designers is a result of their continuous search for new talents with innovative ideas. What Jevnaker (1998) calls a "random walk", i.e. the subsequent sourcing of different designers who have a high level of innovativeness but a low level of familiarity, actually seems to be a deliberate strategy for some of the studied companies.

In contrast, managers who prefer to collaborate with just a few designers describe the intention to have a more consistent product design; here, the designers' personal brands are closely related to the company brand, i.e. a sort of co-branding, as suggested by Hestad (2008). The findings reveal that, by contracting the new but renowned designer Andreas Störiko, *Lammhults Möbel* intended to change its brand image and regain its position as a leading manufacturer of innovative designer furniture. In contrast, for *Karl Andersson & Söner*, which works with many different designers on various projects, the decision to take on a new designer is often less important than the selection of a product idea per se. For example, in the Level and Steelo cases, the choice of designer was rather a consequence of the selection of the products.

Level of recognition

The third criterion found relates to designer recognition, i.e. how well-known or famous the designer is to, for instance, peers and potential customers. While some companies seek to engage famous designers in order to garner attention and benefit from a good reputation, others turned to less known and often newly-graduated designers. The managers described different underlying reasons for their selection of designers recognised to varying degrees. First, one reason given for engaging a less known designer is the company's search for more innovative design ideas which it believes a young, talented designer is able to provide; thus creating a reputation as

an innovative and "young" company. Another reason described in the interviews is the possibility of "shaping" the designer, i.e. influencing and connecting with a promising young designer who, in the future, may be recognised and successful. This influence or "shaping" of a designer in order to invest in a common, successful future was also mentioned by designer Anya Sebton who was invited, early on in her career, to design a product for *Lammhults Möbel* which would not primarily be aimed at large volumes but at communicating and strengthening her own personal brand. The third reason given by managers for engaging designers that are less well-known is that they seek to avoid being closely linked to a well-known designer, i.e. they avoid the co-branding mentioned above, instead communicating their company brand independently of the designer's brand. In contrast, the reason described by managers for engaging well-known designers is that companies, by communicating their collaboration with these designers, are seeking attention in the media and from peers. Related to this is the companies' previously-mentioned aim of having their company brands influenced by the designers' personal brands, as suggested by Hestad (2008). Moreover, as an established designer is understood to be experienced and to have good references from other projects, the quality risk is understood to be lower.

6.3.3 Answer to RQ3 – sourcing and collaboration with designer resources during the new product development process

The previously presented discussion in this chapter leads us to the following answer to RQ3, i.e. the question of how companies source and collaborate with design resources during the development of new products where visual aesthetics are an important dimension:

- The evaluation and selection of a particular designer is a critical event during the development of products that have an important dimension of visual aesthetics. The artistic input of the designer during the development of these products makes him/her unique and difficult to replace with someone else. The products are intimately related to the specific designer, i.e. the selection of a product idea entails the selection of a particular designer.
- Three evaluation criteria for external designers were found in the studied cases: familiarity; the number of designers in the portfolio; and designer recognition. Also, different reasons were revealed for these different selection criteria in the case studies; it was indicated that the selection of designers is closely related to the companies' intended brand image, i.e. how the companies wanted to be perceived by, for example, their customers and peers.

- In addition to the companies evaluating and selecting designers, the designers also evaluate and select potential producers of their products on the basis of various criteria, e.g. financial strength, personal relationships, reputation, skills, and production facilities.

7 CONCLUSIONS, CONTRIBUTIONS, AND IMPLICATIONS

In this chapter, the findings are discussed in relation to the overall purpose. First, on the basis of the previous chapter, where the three research questions were answered one by one, some conclusions will be presented. Also presented in this chapter are some suggested contributions to the marketing and product development literature, managerial implications, and avenues for future research.

7.1 Conclusions

The purpose of this doctoral thesis was to describe and analyse how companies develop products where the visual aesthetics are an important dimension. Three research questions were derived from the overall purpose and answered, one by one, in Chapter 6. In this chapter, based on the previously presented findings, conclusions will be presented as an overall response to my purpose. The conclusions are based on perceived patterns of similarities and differences between the different cases, although the number of studied cases has been limited.

As discussed in the introductory chapter, many companies see visual aesthetics in a product as increasingly important, in addition to that product's functional values. The findings indicate that an important dimension of products' visual aesthetics influences different aspects of companies' new product development. On the basis of the findings, it may be concluded that one underlying reason for these implications is **different and subjective judgements of the aesthetic value** of products vis-à-vis products where functional values dominate. For the studied companies, i.e. manufacturers of designer furniture, much of the perceived aesthetic value is created by, for example, attention garnered in the media, at fairs and, through design awards. Thus, the study reveals that it is important for companies not only to develop products that are successful and sell in large volumes on a mass market, but also to focus on developing products that are popular with peers, e.g. the designer community, since this is a way of forging a reputation as creators of good and valuable design and thus also a means of increasing the perceived aesthetic value of products. Moreover, it is also important for companies to retain the product's "soul", i.e. to preserve the artistic values of products originating from a self-oriented designer with creative interests. In other words, it may be concluded that **companies need to be able to address and balance all three audiences** suggested by Hirschman (1983), i.e. the designer's "self", peers, and the mass market. The consequences of this balance are numerous. For example, the findings reveal that one way for companies to manage this balance is to alternate between the development of products directed at volume sales and the development of more artistic products that are primarily aimed at gaining the recognition of peers and media attention.

Additionally, the perceived aesthetic value of the studied products is not only created by the designer's design skills, but also by his/her name and reputation, i.e. his/her personal brand. Thus, **the composition of the designer portfolio**, e.g. the studied companies' choice of collaborating with designers famous to varying degrees in the long or short term, seems to be a means of gaining media attention or being perceived as associated with a particular designer, i.e. co-branding with a selected designer's personal brand. Also, by collaborating on a long-term basis with

just a few designers, the company can create a more consistent visual appearance in its products.

Moreover, the studied cases show that developing products with a high level of visual aesthetics calls for a **creative, artistic process**, which leads, for example, to flexibility in idea generation and evaluation with regard to product plans and the creation and evaluation of numerous different prototypes wherein the product becomes visualised. Also, in order to create products which retain artistic values, while still developing profitable products, managers must seek to compromise and negotiate, e.g. regarding the visual appearance of products, with their designers during new product development. Thus, close collaboration between managers and designers, based on their common interest in creative design and a trust in each other's competence, is an important foundation for successful new product development.

7.2 Theoretical contributions

As an empirical context in which to study the selected research issues, the development of designer furniture was chosen. To my knowledge, no previous study of these issues, in the same context, has been published; I would thus firstly suggest that my selection of context per se led to a contribution being made to the existing literature on new product development.

Further, I have also identified four main themes where this study adds to the existing literature in product development and marketing research.

Firstly, this study adds to the existing product development literature and empirically illustrates the situation presented in the model by Utterback (2006) where a designer provides important artistic input in contrast to providing input in terms of engineering expertise. The findings show some interesting characteristics of product development using such designer input. First, during product development in the context of designer products, the designer is unique and difficult to replace with someone else since his/her skills in artistic design, not to mention the outcome, i.e. the resulting products, are intimately related to him/her as an individual. Thus, name and reputation are of great importance when sourcing a designer; however, equally important is the fact that the intended product as such is wholly associated with a particular designer. Hence, the company's dependence on a particular, selected designer influences the process per se, e.g. during idea generation and idea screening when, for example, the selection of a designer is intimately linked with a product and vice versa, additionally influencing the working relationship between the manufacturer and the designer, e.g. how conflicts are dealt with. For example, it is noted that there is often a compromising discussion when there are different

opinions about a product's visual appearance. The previous literature on design collaboration (e.g. Micheli, 2012; Svengren Holm, 2005) suggests that the relationship between a creative designer and companies' more commercially-driven functions may easily become tense and problematic, e.g. due to inherent cultural differences. However, the study expands on the existing literature by suggesting that such differences between designers and other functions, e.g. managers, may also be perceived as necessary and productive and are thus appreciated. In the studied development processes, the existing conflicts and argumentations regarding product design, e.g. during concept development, are appreciated by the designers and described as "purification" of their initial ideas. Additionally, the study also provides examples of a number of carefully-managed and conflicting opinions where both parties are very cautious about not damaging good relationships and collaborations. For example, there are situations where managers prepare their actions quite carefully and weigh every word before presenting ideas that they think will encounter resistance in order to avoid conflict. One overall aspect suggested as an explanation of this difference in previous research is the studied manufacturers hosting a general view of design as a strategically important product value, i.e. they have a design-led orientation (Beverland & Farrelly, 2005). In such a common view shared by both the designer and the manager, i.e. of creative and even artistic design being critical to business success, as well as a valuable basis for collaboration, potential conflicts which are due, for example, to differing views on product design issues are more easily resolved. Moreover, the joint view of product design as strategically important is critical to the creation of a trustful relationship which not only, as suggested in the literature, allows managers and designers to share "tacit knowledge" (Maskell & Malmberg, 1999), e.g. on product design issues, but also leads to an important level of trust in each other's supplementary skills in creating and assessing good design. Such trust leads to creative and fruitful collaboration, enabling a successful product development process which results in a product which both the designer and the manager approve of.

Secondly, the study adds to the existing product development literature and reveals that managers' requests for flexibility in relation to intended product plans could be related to the specific product's level of newness and innovation in terms of product aesthetics. The studied cases illustrate that flexibility in relation to plans is deemed important in the development of designer products, i.e. managers say that they do not want to be limited by strict product plans or strategies during idea generation or screening, instead wanting to be able to be more responsive to arising product opportunities. Streams of literature on product development in technological contexts have argued that a strategy needs to be clearly communicated

in order to avoid having "moving targets", i.e. the final result of a product development process should not depart from the initial product idea (Smith & Reinertsen 1998). However, Mintzberg (1990) acknowledges the existence of more emergent strategies, and further argues that companies' reasons for deploying such strategies may stem from an unstable or complex industrial environment. Moreover, Veryzer (1998) suggests that radical innovations in technological contexts may lead to early phases of product development being more explorative and less influenced by business assessments. This study further expands on the work of these authors by suggesting that more explorative product development and emergent strategies may also be related to a product's newness in terms of its visual aesthetics. The study reveals a need for creative freedom during the early phases of the development of new products which have visual aesthetics as an important dimension.

Thirdly, the study provides new insights into outsourcing in a designer product context. Kristensen and Lojacono (2002) note that product design outsourcing may be somewhat unexpected, due to its strategic importance to companies; however, the same authors also suggest that such outsourcing may be explained by the fact that companies keep strategic design matters in-house, while creative design may well be outsourced to external designer resources. Adding to this suggestion, the findings indicate that, in the studied context, skills in creative and strategic design may not be easy to separate, instead being rather interrelated in collaborations between external designers and manufacturers. In the study, the designer is dependent on the manufacturer's skills, e.g. in production, marketing, and sales; however, additionally, the managers also provide input in terms of creative design skills. Also, the designers are involved in strategic issues, but the findings indicate that such involvement is more common in long-term and close designer-manufacturer relationships.

Moreover, and little mentioned in the literature on design outsourcing, the study reveals that one important selection criterion for companies' sourcing of designers may be not disturbing existing relations with other designers, e.g. by engaging a new designer to work with the same product category as someone else. For example, in the Volo case, the intention to avoid such conflicts was described by the product development manager, who removed a "solitaire" product from the designer's product suggestions in order not to disturb relations with already-hired designers. The opposite is also mentioned in the studies, i.e. an intention on the part of the designer to avoid competition between clients, whereby he/she avoids proposing similar design solutions, and even similar product categories, to different manufacturers.

Overall, both the designers and the managers emphasize the necessity of good and trustful collaboration. The interdependence discussed earlier, and the search for such trust, lead to the careful selection of a business partner by both the designer and the manufacturer. The study supports the importance of personal chemistry in creating a close client-designer relationship, as suggested by Bruce and Docherty (1993). However, the study further reveals that such personal chemistry is an important factor in the evaluation of possible external designer resources.

Fourthly, the study adds to the existing marketing literature by empirically illustrating how companies strike a balance between creative and commercial imperatives during the development of new products that have an important dimension of visual aesthetics. Hirschman (1983) suggests that artistic products may be aimed at an audience that is not a traditional mass market, but at "peers", or even "the self" of the creator. The designer products defined in this study are not works of art, according to the definition given by Hirschman (1983), as they also include utilitarian value. However, they do include an important visual aesthetic dimension, and the designers' skills are to a great degree artistic (Utterback et al., 2006). Thus, this study expands on the study by Hirschman by also including such designer products, i.e. suggesting that for products also having utilitarian benefits, other audiences than the mass market should sometimes be addressed.

7.3 Managerial implications

As discussed in the introductory chapter, a focus on visual aesthetics during new product development may be a challenge for managers. Besides the theoretical contributions described previously, this thesis also entails some implications for managers.

The thesis describes and analyses the at times problematic balance, faced by a number of furniture manufacturers, between commercial and creative imperatives during the development of new products that have an important dimension of visual aesthetics. Thus, as a contribution to managers, this doctoral thesis provides some new insight into how this balance may be managed during the development of new products.

The findings indicate that a trustful relationship between managers and designers is critical during new product development. As the commercial interests of a manager may sometimes differ from the more creative imperatives suggested by the designer, product development can sometimes include discussion around the most suitable product design. The findings reveal that, at the studied companies, a trustful relationship, whereby both managers and designers are concerned with and aware of the necessary artistic input during the development of design products, was the

basis for the necessary and fruitful negotiations and discussions leading to a successful development process. Also, the designers and managers felt that it was important for the designers not to compromise too much, and that they should stick to their ideas. Additionally, the designers in the studied projects emphasised the importance of the managers' product evaluation skills on the basis of the managers' market insights. In other words, synergy effects will arise between the managers' and designers' different skills if the managers invest in a trustful relationship with their designers.

Moreover, one implication for managers is that the sourcing of external design resources who have artistic skills is critical and that the company's designer portfolio needs to be carefully managed during the development of products with a high level of visual aesthetics. As illustrated by the findings, selecting designers and composing designer portfolios are critical not only as regards achieving the necessary designer skills, but also as regards creating the company's reputation with customer, peers, and others. As suggested in the literature (Entwistle, 2009), the findings illustrate that peers, the press, and design awards are seen by the studied managers as important aspects of how the customer values design. Thus, managers need to be concerned not only with understanding and responding to customer and market needs, but also make efforts for addressing such other market actors. For example, the studied companies show that the development of a number of products, which are mainly aimed at communicating the company's skills and interest in design, is a way of addressing the company's audience of peers and garnering media attention.

7.4 Future avenues of research

There are several interesting, potential avenues of future research. As mentioned in the introductory chapter, a general need has been pointed out in several recent studies for more attention being paid in the academic literature to product design and its relationship with marketing, including new product development, (Luchs & Swan, 2011; Noble, 2011; Ravasi & Stigliani, 2012). Naturally, this doctoral thesis might only make a very small contribution to the existing gap, thus leaving several issues still to be explored further.

One interesting issue to expand within design-marketing research is the customer's perspective in a business-to-business environment. The findings of this thesis illustrate the importance of peers, the press, and design awards for managers' decisions during the product development process. It would be valuable to study how and to what extent business customers base their purchasing decisions on such actors and events. Existing studies (see e.g., Kristensen et al., 2012) of the value of

design are often based on consumer behaviour research and, thus, studies in a business-to-business environment would add to existing research in this area. It is further suggested in the marketing literature that there are other main influences on the industrial purchaser's behaviour compared to the consumer, e.g. organisational and environmental aspects (Kotler et al., 2005). Moreover, because of the assumed rationality of the industrial purchaser, the utilitarian aspects of design are suggested to be more important to such purchasers than product form and meaning (Lilien et al., 2010). Further empirical studies of this issue are needed and would add to the conclusions reached in this doctoral thesis.

Second, this study is mainly concerned with the product development processes of SMEs. Consequently, a study of the same research issues at larger companies that have larger internal design and marketing organisations would be an interesting future avenue of research. It would be especially interesting to extend this study to include companies that have an internal organisation of designers where different conclusions might be reached, e.g. on the nature of the collaboration between managers and designers.

Third, an expanding study in another industrial context, e.g. hi-tech companies, would be one way of verifying and possibly also expanding the findings from the designer furniture manufacturing companies in this thesis. As mentioned above, the literature suggests that product design is also becoming more important in new industrial contexts, previously only driven by functional needs (Cillo & Verona, 2008; Talke et al., 2009), and where, accordingly, the designer input has been oriented towards engineering rather than art (Utterback et al., 2006).

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Part II

Papers

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