Commercial Imperatives and Product Design

A Multiple Case Study in the Furniture and Accessories Industry

Master's Thesis

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Abstract

This thesis is concerned with the development of design products in the furniture and accessories industry. Five cases studies will be analyzed, with focus on the final product and the design process that led to it. The descriptive and inductive research will answer the question “How do commercial imperatives influence the design of furniture and accessories?”. Qualitative data was collected through in depth, semi-structured interviews with the designers of the products that are object of the study. The starting point will be an outline of the history of furniture, leading up to the current commercial peculiarities and issues in the activity of designers. The theoretical framework for the study will then be set up, including the theories about product design used for the analysis. The five cases will be presented, followed by the analysis of the findings of the interviews with the designers. This analysis will uncover the influence of commercial imperatives on each of the elements of the product emerged from the theoretical framework: material, function, expression and form. Finally, the results will be discussed in order to contribute to the current academic discussion on product design and provide useful insights for the practice of design and the management of creative industries.

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1. Definition of the Problem

1.1 Introduction

Product design receives a lot of attention across industries as the success of many companies lies in their capability to continuously develop products with innovative and unique designs. The potential of product design as a tool for achieving competitive advantage has been discussed in the marketing literature, as well as the managerial challenges that characterize the development of new products with a high design content, due to the tension between commercial and creative interests. A number of authors (e.g. Bruce and Daly, 2007; Kotler and Rath, 1984; Kristensen and Grönhaug, 2007; Olson, Cooper and Slater, 1998) have suggested that product design should be driven by the requirements of the market. Some others argued that artistic and artisanal products should be protected from business imperatives or questioned the possibility to control the creative work of designers while maintaining creativity (e.g. Beverland, 2005; Hirschman 1983; Fillis, 2006). While the contrast between creativity and business has been largely studied, little attention has been paid to the interplay of these two aspects in product development. The starting point of this study is the acknowledgement that designers face commercial imperatives and economic constraints during their activity; the research will aim at uncovering the exact role of these factors in determining the final design of products, to offer both designers and the other actors involved a better understanding of the interplay of creativity and business, using the furniture industry as area of investigation. A brief history of furniture design will be outlined in the next section, followed by an explanation of the concepts within the academic discussion on product design that will be used to analyze the findings of the research, and the research question answered by this thesis .

1.2 Furniture Design: from Handcrafts to Industrial Production

Throughout history, furniture has been a part of human experience and trends in furniture design have been evolving together with technology advancements, new materials and esthetic

tastes. Since the beginning of civilization, humans have been using natural objects as rudimentary pieces of furniture (Smardzewski, 2015); it was around 30,000 years ago, during the late Paleolithic or early neolithic period, that humans began constructing and carving their own furniture, using wood, stone, and animal bones to produce handcraft furniture (Smardzewski, 2015). The earliest evidence of this type of furniture production comes in the form of figurines and mural paintings depicting furniture, implying that such artifacts were already common at that time (Smardzewski, 2015). The oldest surviving pieces of ancient furniture are pieces excavated from a Phrygian tumulus of the 8th century BC and furniture from the 9th/8th century BC Assyrian palace of Nimrud. Historical knowledge of Ancient Greek and Roman furniture is derived from various sources, including literature, terracotta, sculptures, statuettes, and painted vases. Some pieces survive to this day, primarily those constructed from metals, including bronze, or marble (Blakemont, 2006). Contrary to furniture of the ancient civilizations, we have scarce literature portraying medieval furniture, and very few surviving pieces. Between the 5th to the 15th century the prevalent style was that of late antiquity, characterized by heavy furniture made of oak with carved decorations (Smith, 1979). Furniture design saw a rebirth with Italian Renaissance in the fourteenth century, and in northern Europe in the 15th century. The opulent and gilded designs of Baroque sprawled across Europe in the 17h century, permeating furniture with a sense of drama and love for the ornate. With the 18th century, furniture designs started developing more rapidly, encompassing an array of styles that belonged primarily to one nation - like British Palladianism or French Louis XV style - and others that were extended all over the continent, such as Neoclassicism and Rococo. In the 19th century, with the Industrial revolution and the rise of mechanical production, we can trace the origins of modern design. Before that, objects - including furniture - were produced artisanally and the development and the craft of an object were mostly outcome of the skills and the creativity of an individual, “a collective endeavour organized around the figure of the master craftsman”, that was “supplanted by routinized procedures coordinated by the scientist–entrepreneur” (Holt and Popp, 2016, p. 4). Thanks to the new industrial production processes and labor division, design - meaning the conceptualization and planning - was separated from

production and considered one of the many aspects connected to the automated production (Fiell, 2012). The process of designing furniture became more formalized, too; design were refined and influential styles from other countries and periods were absorbed. As furniture production moved from workshops to factories, designs slowly abandoned the decorative styles of the late XIX century to the modern, rational styles of the 20th century (Lawson, S. 2013).

Modern design can be considered an evolution from impulses that some reformers - like William Morris, the leading member of the Arts and Crafts movement in England - elaborated in the 19th century in order to unify design practice and theory, in a moment when the fundamental principles of design didn't have any theoretical now philosophical base. William Morris advocated that aesthetic value was of fundamental importance to the well being of human beings, and an important attribute of the construction of a new equal and just society, with an emphasis on the home and its design. His ideas were developed at a time when craftsmanship was still expensive due to its high labor content, and therefore only available to affluent people (Bengtsson, 2010). Since the production methods he used were still based on craftsmanship, Morris's attempt was not successful, but his ideas had a strong impact on the Modern Movement (Fiell, 2012).

It was only at the beginning of the 20th century that modern design was actually born, when personalities Walter Gropius integrated design theories and concrete practices through new industrial production tools. Trying to fill the gap between social idealism and business that lasted until the end of the First World War, Gropius founded the Bauhaus art school in 1919. The aim of modern design, according to the principles of Bauhaus, was to produce objects that unified intellectual, practical, commercial and aesthetic interests though artistic creativity and new technologies (Fiell, 2012). While Bauhaus elaborated new and important design concepts, it failed in elaborating ways to implement those same concepts easily in the industrial production process. This was later done by the New Bauhaus movement, founded in Chicago by Lazlo Moholy-Nagy in 1937 and by the Hochschule für Gestaltung of Ulm, founded in 1953. These two educational institutions brought important contributions to the integration of design theory in the industrial methods of production (Fiell, 2012). Due to the conditions of war and the postwar

situation, many designers - especially in the United States and Scandinavia - were urged to create simple products that could be produced quickly without the necessity of investing large amounts of money. Moreover the new needs and ways of life, materials and production processes required manufacturers to rethink the role of design, to comprehend rationality, functionality, quality and accessibility at low cost. Across the forties and fifties, modern furniture embraced a wide range of new technological possibilities that allowed a new generation of designers to use revolutionary new materials and technologies for adding new aesthetic values to furniture products, but also to fulfill new functions and for producing low-cost furniture. Personalities such as Charles and Ray Eames in the United States, Hans Wagner in Scandinavia and the German-American architect Mies Van der Rohe applied craft skills to new manufacturing opportunities; their use of laminated and formed plywood, and cold bent steel tube produced archetypes of modern style that are still in production nowadays. It is evident that the properties of the new materials and manufacturing techniques constituted the base for new trends and new designs in the furniture industry during the last decades, but commercial imperatives also had - and still have - a great impact on the designer's activity.

As a matter of fact, new revolutionary designs do not originate only from the creative possibilities offered by new materials or technologies; quite often they are outcome of the designer's attempt to design a piece that fits with the producer's pressure to contain production costs and increase mark ups, or to produce an item that appeals to a large market. The iconic Panton Chair designed by Verner Panton in 1960 is a perfect example of this. In order to get rid of the "forest of legs" implied by conventional chairs, Panton designed a legless chair shaped and molded from a single piece of plastics. A showcase of the great potential of production techniques involving composite materials, the chair was designed not only to break away from the stereotypical concept of a chair, but also to simplify the production process and make it more cost-effective (Bucquoye, 2003). In particular the democratization of design and the desire of companies to produce competitive products influenced the evolution of design since the start of the 20th century. IKEA started a home furnishing revolution in the 50s, and it's now the largest furniture retailer. The company's founder Ingvar Kamprad described the three

dimensions that lay behind IKEA's success: form, function and price. His vision was to create cheap but good furniture designed also for families and individuals with lower income and little understanding of design (Bengstsson, 2010).

The 20th century has seen a growing complexity of the relationship between design, production and commercialization process, which is fragmented in an array of specialized interconnected activities which involve a number of professional figures, including designers, engineers, technicians and marketers. As Lambert (1993) pointed out "a designer must collaborate with those in business if a design is to have any from as a three dimensional product" (p. 47). Already in 1955, American architect and designer Henry Dreyfuss (1955) offered the following description of the designer:

> *"Actually… He is a businessman as well as a person who makes drawings and models. He's a keen observer of public taste and he has painstakingly cultivated his own taste. He has an understanding of merchandising, how things are made, packed, distributed and displayed. He accepts responsibility of his position in liaison linking the management, engineering, and the consumer and cooperates with all three"* (pp. 14-15)

Because of the modern production and commercialization processes, products are no longer only the result of the work of the designer as an individual, but of the work of a multitude of individuals with different ideas and attitudes towards how to carry on the project. This pluralism is also due to the ever-changing tastes and consumption models, technological progress and complexities._Today, the abundance of new materials and production technologies can expand the range of creative possibilities to reconsider the concept of form and the expression of an object, but on the other side economic constraints and increasing market pressure might reduce the range of potential developments and create a complex set of decision points for designers that influence the final outcome of the design process: the product.

1.3 Theoretical Framework

As Bloch (1995) suggested, design is a complex and diverse process that must respond to various constraints and objectives, and the designer's own desire for self-expression is only one objective. Constraints include product performance, production objectives and marketing objectives (Bloch, 1995). This topic was also studied by Friedman (2000) and Lawson (1990), who agree upon the fact that constraints faced by designers affect their work in a positive way. Analyzing the characteristics of different design processes, they found out that designers impose constraints on their work to narrow the solution space and to generate concepts which help them to find answers to the design problem. Lawson believes that this process is purely individual, yet influenced by factors related to the final result of such as technology.

Design is a rather ambiguous word and numerous alternative definitions has been given to it; often the concept of design is not explicitly defined or the definitions provided are very broad (Luchs and Swan, 2011), like the definition of Bruce and Bessant (2002) of design as the application of human creativity to a purpose, which seems to try to include all possible situations where design is involved. Zetterlund (2002) explained the difficulty to find a general definition of design with the fact that this definition is context dependent and tends to have different meanings in different industrial environments. For example design can be analyzed from the perspective of engineering activities and product function (Kohli and Krishnamurti, 1987; Utterback et al., 2006), but it may also be considered only in relation to visual appearance and creative content (e.g. Bloch, 1995; Kaul and Rao, 1995). Additionally, the word design relates to both the process of designing - the course of action for the development of an artifact, including the organizational activities required to achieve it (Gorb and Dumas, 1987) - and the outcome of such process. This thesis will analyze the influence of commercial imperatives on the final product, without neglecting the design process that led to it. In order to gain an understanding as comprehensive as possible, all the elements of the product will be taken into account, following DiSalvo's (2012) theory of the constitution of a product. This theory will be presented in the next chapter, compared and complemented with theories and concepts within the

academic discussion on design, and it will be used as a guideline for the analysis of the findings (Section 4) and as a base for the discussion (Section 5).

1.3.1 The Constitution of a Product: Material, Function, Form and Expression

DiSalvo (2012) accepts the definition of design theorist Victor Margolin as a valid starting point for his analysis. According to Margolin, products are “the human-made material and immaterial objects, activities and services and complex systems or environments that constitute the domain of the artificial” (Margolin, 1995, p. 122). This definition of the product is deemed thorough and robust because it opens the space of what is considered as a product to include all of the potential results of any design activity; so the product isn’t necessarily just a physical commodity, as commonly believed, but rather the result of any design activity (DiSalvo, 2012). DiSalvo (2012) outlines four dimensions that constitute a product: materiality, expression, function and form. The use of these terms to describe objects traces back to the *Poetics* of Aristotle, in which the philosopher suggested the relation of these elements as a way to judge and understand a work. Aristotle wrote that "we do not have knowledge of a thing until we have grasped its why, that is to say, its cause”; he was convinced that four causes - αἰτίας in greek - provided an analytical scheme of general applicability, even when identifying a cause is difficult or two or more causes merge together (Lindberg, 1992). The causes of an object are explained as follows (Hankinson, 1998):

- Matter, the material cause, is the aspect of the change or movement which is determined by the material that composes the moving or changing things;
- Form, the formal cause, is a change or movement caused by the arrangement, shape or appearance of the thing changing or moving;
- Agent, the efficient cause, consists of the things apart from the thing being changed or moved which interact so as to be an agency of the change;
- Purpose, the final cause, is that for the sake of which a thing is what it is.

Aristotle explains that these four causes are not mutually exclusive, and to explain a phenomenon or the constitution of an object several answers to the question “why” has to be given, taking into account all four (Hankinson, 1998). Heidegger also elaborated his own version of the four causes, using the example of a sacred chalice. The chalice is caused by its craftsperson and the silver it is made of, but also by the fact that its shape must be able to hold liquids in the temple (Tokinwise, C., 2016). He listed the four causes in his work *The Question Concerning Technology* (Krell, 1977):

- C*ausa materialis* is the material or matter;
- C*ausa formalis* is the form or shape the material or matter enters;
- C*ausa finalis* is the end;
- C*ausa efficiens* is the effect that is finished.

Heidegger believes that the four causes are necessary to allow a path to become present for the material that is not present; he then argues that the ability to create a final product using these four steps is what unifies them as an exclusive group (Krell, 1977). Rather than addressing philosophical concepts of ontology, DiSalvo (2012) suggests these four elements - materiality, expression, function and form - as the dimensions according to which an object should be analyzed. According to him, products can be described “by the distributions of significance and influence across the dimensions, resulting in different kinds of products, each with different agencies” (p. 32). This way of addressing the constitution of a product allows to describe, analyze and criticize it, with the explicit aim of setting a relevant trajectory for the practice and the study of design.

DiSalvo (2012) rejects the objective view of the product as a discernible artifact that can be described and evaluated based on measurable qualities. He uses instead a subjective view, from which the product is “revealed as a multi-dimensional effort undergoing constant interpretation and reconstruction” (p. 34) by both the designer and the user. The product is not studied in its context but it is the context: “we look through it and with it, into the world” (p. 34), it

is considered together with the relationships that it maintains with the people and the environment, and it includes qualities that are not immediately observable and demonstrable (DiSalvo, 2012). The object as a whole depends on the relations between these dimensions, the way they cooperate, and the tensions between them. Still this perspective do not negate the product as a whole, as all the dimensions interact with each other to make up the whole (DiSalvo, 2012). Following these premises, DiSalvo (2012) discusses each of these dimensions, in order to understand the product from the perspective of the practice of design.

Material

Every product is made of some kind of material. DiSalvo (2012) defines material as “the elements rendered by design” (p. 36) and asserts that they can be both physical quantities and factors - such as motion or time - that influence its appearance and its function (e.g. the motion of an animation). In order to properly identify the materials of a product, all the elements that have an influence on the constitution of a product have to be considered, including those that are not rendered by design, for example time or energy (DiSalvo, 2012). DiSalvo (2012) notices that materialities can be hard to identify due to the increasing technological complexity, and that conflicts can arise between the multitude of people that engage with the materials of a product.

Other authors approach new developments in materiality with a more positive approach; for example Antonelli (1995) points out that the current development of new and innovative materials is one of the major drivers of change in design, offering designers an unprecedented array of possibilities: “materials are being transformed from adjusts in passive roles to active interpreters of the goals of engineers and designers" (p. 90). The belief that new materials “hold the key to new forms” (Lambert, 1993, p. 33) is not new, but has been accepted throughout the 20th century. For example, nickel-plated Modernist pieces such as Breuer’s Wassily Chair could have not been manufacturer without the technical developments in tubular-steel and chromium production. Lambert (1993) points out that the role of materials goes beyond what they make practically possible, as they have a strong inspirational power towards forms that they might not even deliver. Ashby and Johnson (2002) share this belief in the inspirational role of materials,

stating that “new developments in materials and processes are sources of inspiration for product designers, suggesting novel visual, tactile, sculpture and spatial solutions to product design” (p. 2). This finding is supported by a study carried out by Alesina and Lupton (2010), which confirmed that designers think in more creative ways when they explore materials instead of pursuing a preconceived final product.

Ashby and Johnson (2002) attribute to materials an emotional and experiential relevancy that DiSalvo (2012) reserves only to the form; according to them, materials can affect the perceptions of a furniture product - for example classic, futuristic or trendy - and the mental associations to it. For example Hungarian designer Marcel Breuer used metal in his furniture not because it was styleless as he claimed, but because it is a material normally associated with industry and it would contribute to a precise interior style, characterized by “nothing but a necessary apparatus for contemporary life” (Lambert, 1993, p. 29).

Hodgson and Harper (2004) observed that concepts have been developed which attempt to adopt a holistic approach towards the integration of materials into design. They involve considering the materials as the heart of the design process, as the integrating element that pervades all aspects of the design. This approach is claimed to be more compatible with the practice of most product designers, as “material specific” way of formulating a conventional product design specification (Pugh, 1991). Nevertheless, DiSalvo (2012) attributes this unifying and central role to the from.

Function

American Architect Louis Sullivan is credited for the maxim “form follows function”, central to traditional design theory, as an alteration of the Vitruvian law “form ever follows function”. According to Lambert (1993) this statement suggests that function should be the decisive factor in the development of from, but in reality function itself is dependent on many factors, including the materials and the techniques used to form the object. This limitation was not noticed by Ashby (2003), who in most recent times asserted that function dictates the choice of materials and shape, and it is the starting point for a design project. DiSalvo (2012) does not share this

belief in the supremacy of function over the other elements, but still recognizes its central role in the definition of the object: "The function of a product is the work a product is designed to do" , the "central tenet by which it is defined and evaluated" (p. 43). For example "the functional justification of a chair is sitting" (Moholy-Nagy, 1947, p. 44), a chair allows to sit and supports the action of sitting and being seated. The fact that it defines the product is the most important role of the function as a constituent of it (DiSalvo, 2012); following the previous example, a product has to allow sitting in order to be a chair. Nevertheless an object also needs to fulfill the expectations of use: for example, a chair has to look suitable and safe for sitting, and sitting on it should be considered socially appropriate (DiSalvo, 2012). This means that the functional qualities of a product do not include only physical requirements but also social and psychological ones (DiSalvo, 2012). Ashby (1999) shares this view and adds pleasure as a functional aspect of the object, pointing out that "successful industrial design tells you what the product is and how to use it, and it gives pleasure" (p. 352).

Another important aspect considered by DiSalvo (2012) is is that the functional aspects of a product are not fixed, but they can change and they can be manipulated by the expression of the product. The function can also be evaluated on the different levels, for example an object can be evaluated in operational terms - judging how effectively a product performs its intended function - and in aesthetic terms, judging with aesthetic qualities it performs that function. The relation between these two is connected to the dimension of the expression, as explained by the example of Rams and Sottsass (DiSalvo, 2012).

Form

Form is one of the most debated topics in the theory of design. American philosopher John Dewey (1934) defined form as the manifestation of the intellectual, practical, and emotional characteristics of a product, which determine its usefulness, usability and desirability to the user. The role of form in the desirability of a product was also observed by Norman (2008), who listed form as one of the main elements of visceral design, the level of design that aims at appealing at first impact, inducing an "I want it" reaction at first look (p. 69). Norman (2008) explained that

at the visceral level people share similar tastes and are attracted by the same forms, while at the other two levels - behavioral and reflective - tastes depend on individual experiences, education and culture. Saffer (2006) also recognized the role of culture in determining the form of an object; according to him form goes beyond the physical and aesthetic properties of a product, and it includes all the aspects of a product's character, including the he values of the culture to which it belongs. DiSalvo (2012) defines the form of a product as the unifying element of the constitution of the product, "the organization of relationships between the materials, expression, and function, toward the public" and 'the experiential whole of the product, unified and stable but open to interpretation and change" (p. 45). According to him (2012) too much focus is placed on the product's visual appearance, which is evaluated based on its sensorial qualities using a materialist perspective. He agrees with design historian Clive Dilnot (1989) in criticizing the common approach to form for being too basic and neglectful towards the implications and importance of the concept; he then points out that form is not static, but rather the factor that unifies and orders different elements, and that the object should be evaluated based on the unity achieved through form (DiSalvo, 2012). From should then be considered in terms of relations and unity, i.e. which relations are present in the product and how they are unified (DiSalvo, 2012). This vision is in open contrast with Verbeek and Kockelkoren (1998) who argue that since the beginning of industrial design there has been a bias towards non-materiality that moved the most important role to ideas rather than to matter, leading people to be attracted not to the objects but to the ideas that this object represent, and preventing the creation of more timeless and engaging objects through practices that better conciliate matter and form.

Expression

George Nelson (1957), one of the founders of American Modernism, defines the designer as the actor who gives form to the essence of something in order to convey truths. According to this definition the designer uses form not only to give shape and structure to materials, but also to provide a means way to interpret those materials. DiSalvo (2012) defines the expression of the

product as “how materiality of the product is rendered by design” (p. 40). As a matter of fact, as a product is designed by someone, the manifestation of the product cannot be divided from the designer. Buchanan defined style as “the manifestation of design thinking” (2006), but the way a product is expressed goes beyond that, and includes the philosophy and beliefs of the designer (DiSalvo, 2012). Expression is not only visual aesthetics based on taste, or “the manner of creating form” it is “a factor of the presence of the designer in the product” (DiSalvo, 2012, p. 42). Designers share a common interest in the experience of use and a believe that the designer can influence that experience through a product’s expression, but they have different view and ethic on how to do it (DiSalvo, 2012, p. 42). For example for Dieter Rams believed the designer has to reduce the expressiveness of a product in the environment to a minimum, as good design is unobtrusive, neutral and leaves space for the user’s expression (Makovsky, 2004). On the other end of the spectrum Ettore Sottsass believes that the role of designers is to make products that perturb the environment, to stimulate perceptions and benefit individuals (DiSalvo, 2012).

It has been claimed that while artists are free to create something primarily in order to express their subjective conceptions of beauty, emotions and aesthetics (Hirschman, 1983), designers are are restricted by industrial processes and faced with economic constraints (Svengren Holm and Johanson, 2005). This dichotomy has been studied by Hirschman (1983), who suggested the existence of commercial creators in contrast to self-oriented creators. In his view, commercial creators - such as designers - create in order to satisfy the needs of a larger market, in contrast to self-oriented creators - including artists - who rank their own evaluative criteria above those of the general public and their peers. This strong aesthetic and intellectual conviction is at the base of self-oriented creation, and can lead to products that satisfy only the preferences of the designer (Hirschman, 1983). Hirschman (1983) doesn’t deny the possibility of self-oriented creators being successful with larger audiences, but he underlines that they primarily create with their own criteria in mind, while the highest priority among commercial creators is to satisfy the public at large, as the commercial success of their designs is the primary objective (Hirschman, 1983).

As the practice of design involves more actors than the designer only, they all play a role in the expression of product, influencing the final outcome of the design process beyond the inspiration and the beliefs of the designer. DiSalvo (2012) argues that this plurality becomes an issue when considering the expression of a product, especially since these actors are professionals and nonprofessionals that are not traditionally considered designers. From this perspective the relationship between designer and manufacturer acquires even more relevance. In a recent interview designers Markus Jehs and Jürgen Laub (2008) compared this relationship to the one of two parents, in which the designer is the father and the manufacturer is the mother who incubates and develops, and ultimately the child they created together arrives and both have the same rights.

It has been observed how the relationship between marketers and designers is not free from difficulties and contrasts; for example Bloch (1995) noted that designers, contrary to the marketer, may seek a greater level of novelty and impact in their product design, a novelty than the marketplace may be ready to accept (Bloch, 1995). This can become a source of conflict, as customer desires are the highest priority for manufacturers, even when these desires are not driven by the same principles of the form givers (Lambert, 1993). On the other hand, conflicts and compromises between the differing ideals of designers, marketers, and other functions, 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). This view is shared by Kristensen and Grönhaug (2007) who asserted that “the intellectual smartness of marketing and the artifact smartness of design can be united in a strong way” and improve the final product (p. 821). According to DiSalvo (2012) the positive concurrency of more actors in the expression of a product is not limited to designer and marketer, but it is also evident in approaches like participatory design, which explicitly and actively involve people other than designers - such users - in the design process (Sanoff, 1990). For example, in furniture companies such Herman Miller and Steelcase, social scientists have been used extensively since the 1980s for their contributions in the design of products for the workplace (Frascara,

2002). DiSalvo's (2012) approach frames the product as a subjective creation composed by the relations among expression, materiality, form and function; it allows to analyze products from the perspective of design, with the aim of "informing and advancing the activities of the practice of design and subsequently the planning, conception, and making of products" (p. 53).

1.4 Research Question

As a result of the above discussion, it appears that the activity of the designer is characterized by a number of economic constraints and that the product, defined as a subjective creation (DiSalvo, 2012), is in fact the outcome of a process in which the creator - the designer - faces the challenge to satisfy the requirements of the manufacturer and ultimately the market. It has been discussed that design and commercial requirements can clash in terms of aesthetics, and that designers are have different motives compared to manufacturers, but the exact impact of this contrast on the product is not clear. If the product is composed by the relations among expression, materiality, form and function, the commercial imperatives that the designer has to abide must have an impact on each of them, determining in some way the final design of the product. Therefore - having as object of analysis the furniture industry - the aim of this study is answering the question:

How do commercial imperatives affect the design of furniture products?

Through the analysis of five case studies - five projects from five different designers - it will be described how commercial imperatives influence the design of furniture pieces and accessories. The analysis will follow the four aspects of the product as listed by DiSalvo, therefore the research question will be answered by considering the impact of commercial imperatives on each form, expression, function and material of the objects under analysis.

2. Methodology

2.1 Approach

The research is an inductive, descriptive multiple case study. An inductive approach has been followed, looking at finding appropriate theories from the data collected, instead of testing existing theories through data collection. According to Veal and Burton (2014), this approach to research implies that “the explanation is induced from the data, the data comes first and the explanation later” (p.39). Inductive studies are the mostly used in qualitative analyses such as this thesis, which tend to be in the form of a narrative description instead of a numerical estimation (Veal and Burton, 2014).

Describing “as far as possible, what is” (Veal and Burton, 2014, p. 34) is the aim of descriptive studies, in order to show how things are as opposed to how things should be, or how things could be improved. A descriptive study has been chosen in order to reveal the influence of commercial imperatives on the activity of designers, offering insights on how to deal with the tension between creativity and business. Despite case studies being often deemed as an unreliable source of knowledge, useful only in the preliminary stages of an investigation (Abercrombie, Hill, and Turner, 1984), Flyberg (2008) points out that “formal generalization is overvalued as a source of scientific development, whereas the *force of example* is underestimated” (p. 228) and that the rigor of case studies is different from that of quantitative studies, but no less strict. Case studies provide a closer look into reality and “test views directly in relation to phenomena as they unfold in practice” (Flyvbjerg, 2006, p. 220). All type of research can present issues of subjectivism, including quantitative studies, as “the element of arbitrary subjectivism will be significant in the choice of categories and variables for a quantitative or structural investigation, such as a structured questionnaire to be used across a large sample of cases” (Flyvbjerg, 2006, pp. 235-236). Therefore “the case study contains no greater bias toward verification of the researcher’s preconceived notions than other methods of inquiry” (Flyvbjerg, 2006, p. 237). Despite providing an in-depth and detailed view of situations,

case studies lack the breadth of larger samples of data. Nevertheless a number of scholars suggest that cross-case analysis can enhance a researcher's contribution to theory and method (e.g. Eckstein, 2002; Rueschemeyer, 2003), dismissing counter-arguments that using multiple cases reduces the density that is the source of knowledge of descriptive studies (Peattie, 2001). Goals for engaging in a cross-case analysis can include, for example, further illustration, concept and hypothesis development, prediction, and empathic portrayals (Khan and VanWynsberghe, 2008). In this thesis multiple cases have been used in order to provide a more comprehensive view and to observe patterns across the different objects of analysis.

2.2 Data Collection Methods

In order to unfold the influence of commercial imperatives on the design of furniture, qualitative data was collected through six in-depth interviews with designers, in the form of words and images rather than numbers (Veal and Burton, 2014). Interviewing is a form of conversation used to generate empirical data about the social world, and it can vary from highly structured, standardized, quantitatively oriented survey interviews, to semi-formal guided conversations and free-flowing informational exchanges (Holstein and Gubrium, 1997). Qualitative in-depth and semi-structured interviews were chosen because of their ability to provide full descriptive an and uncover subjective meanings. They consist in an organized but flexible set of questions that includes both specially worded questions, more general open questions and the possibility of asking unforeseen questions (Justesen and Mik-Meyer, 2012). This method has been chosen as it is suitable for studies that adopt an exploratory approach, to generate knowledge and stimulate the interviewees reflections on the selected themes (Justesen and Mik-Meyer, 2012). In order to obtain real life and spontaneous responses, face-to-face interviews were chosen, ensuring a high level of involvement of the participants, who can interpret the social characteristics of each other, either verbally or nonverbally, through gesture, tone of voice, and facial expressions (James and Busher, 2012). Both parties in the interview are active; the meaning is not only elicited by questions and replies, but it convenes actively and communicatively during the interview (Holstein and Gubrium, 1997). The type of interview used

for this research is designed to avoid bias and to pose the questions in an open and simple way, paying attention on how and what to ask (Holstein and Gubrium, 1997). The investigation was conducted using a recursive approach, meaning that different areas of the research were taken into consideration at the same time, with more flexibility and in nonlinear ways (Veal and Burton, 2014). The data collected will be presented and analyzed in section 3 and 4, and discussed in section 5.

2.2.1 The choice of interviewees

The choice of using designers as the source of knowledge is based on the epistemological approach of this study: a phenomenological perspective has been used, which “includes a focus on the life world, an openness to the experiences of the subjects, a primacy of precise descriptions, attempts to bracket foreknowledge, and a search for invariant essential meanings in the description” (Kvale, 1996, p. 38). This seemed a valid approach for answering the research question as it focuses on understanding social phenomena from the actor's own perspective and subjective experience, starting from a perspective free from hypotheses or preconceptions (Lester, 1999). The designers interviewed acted as “key informants”, they were chosen to gain insight directly from the creator of the object under analysis, therefore an “expert source of information” that can be obtained in a short amount of time compared to interviews with other members of a community (Marshall, 1996, p. 92). The choice of the case studies, and therefore of the interviewees, was based either a personal relationship with the designer or an interest in the object in question.

The first interview carried out was with Derya Arpaç on April 17th 2017, and consisted in an informal test interview, to unfold potential angles for the research and adjust the direction towards a refined research question. This interview was not recorded but notes were taken throughout the dialogue. From this first interview two distinct problematic issues emerged design of commercial furniture: the pressure to contain production costs and the pressure to design products that are commercially successful. Those two became the central elements of the investigation and the strategy for the following interviews. A proper face to face interview

about her Confetti Table - the first of the five cases analyzed in this research - followed on June 28th, lasted around one hour and was audio recorded. A few factual question were asked, mostly to confirm facts that I already was aware of due to my knowledge of Derya's work. The rest of the questions were open-ended and the conversation led the choice of questions, although following a list prepared beforehand in order to insure all the possible areas of discussion would be covered. According to Justesen and Mike-Meyer (2012) this semi-structured approach to interviewing allows to gather data sufficiently in depth for research. Semi-structured interviews are based on questions prepared in advance but leaving the possibility of interacting with the interviewee and asking. Veal and Burton point out that (2014) the in-depth approach to interviewing allows a deeper investigation than questionnaire-based interviewing, as the in-depth interviewer typically encourages respondents to talk, poses supplementary questions and asks respondents to explain their answers (Veal and Burton, 2014).

The interviews with the other designers all followed this approach. The interviewees were contacted through email or phone in order to check for availability, information about the designer and the product were collected, and the same set of question was adjusted each time to better fit with the case. Information about the interviewee's product and technical details of the design process were gathered through factual questions (Justesen and Mik-Meyer, 2012: 56). Those were followed by open-ended questions aimed at gaining deeper insights and descriptions, and additional questions were asked as a follow-up point to some answers, according to the semi-structured interviewing method. The second interview was with Toke Lauridsen, it was carried out face to face and recorded in his studio in the Kødbyen district of Copenhagen. While visiting his workshop it was also possible to see the prototypes and the components of the Adam stool, gaining a real life insight on how the product was first developed. The third interview was with Tino Seubert, designer of the Azul Bahia Tables. The interview was conducted on July 25th 2017 via video call, since the designer is based in London. Hans Peter Munk was interviewed on August 8th 2017 at his Copenhagen studio, which is also the headquarters of the Munk Collective brand. The last interview, with Anders

Kirkebjerg Olesen, was carried out in Copenhagen on the same day, followed by a short set of additional questions submitted to the designer via email. The table below presents an overview of the interviews, together with the label used for referencing in the section 4 (Analysis of Findings).

Name	**Topic**	**Time and Place**	**Length**	**Type**	**Recorded**	**Label**
Derya Arpaç	Problems and challenges in the furniture design process	Copenhagen, 17/04/2017 face to face	n/a		No	I0
Derya Arpaç	The Confetti Trolley	Copenhagen, 28/06/2017, face to face	1 h 01'48"	Semi-structured, in depth	Yes	I1
Toke Lauridsen	The Adam Stool	Copenhagen, 05/07/2017 face to face	34'04"	Semi-structured, in depth	Yes	I2
Tino Seubert	Azul Bahia Tables	Video call 25/07/2017	33'33"	Semi-structured, in depth	Yes	I3
Hans Peter Munk	The Turn Lamp	Copenhagen, 07/08/2017 face to face	36'17"	Semi-structured, in depth	Yes	I4
Anders K. Olesen	The T1 Table	Copenhagen, 07/08/2017 face to face	43'05"	Semi-structured, in depth	Yes	I5

All the interviews were in depth, including the first informal preliminary interview. The interview length was planned to span from 30 minutes to 1 hour, so that the respondents could have enough time to answer all the questions exhaustively. On average an interview lasted around 40 minutes. Rasmussen et al. (2006) advise to keep the interview between 30 minutes and 2 hours. The interviews were audio recorded and subsequently transcribed literally (see appendix); these transcriptions were not given back to the interviewees to approve or correct.

2.2.2 Interview questions

As explained above, semi-structured in-depth interviews consist in a checklist of topics to be raised rather than a formal questionnaire. Nevertheless a few pre-determined questions may be included. The interviewer uses the checklist to shape the question according to the circumstances of a particular interview, making the interviews vary from one to the other, but ensuring that all relevant topics are covered, even if they occur in different ways and orders (Veal and Burton, 2014). Following this approach the notes prepared before the interviews have been used only as guidance, and follow-up questions were allowed so that interviews could "take on a life of their own" (Veal and Burton, 2014: 223). As noted by Veal and Burton, every interview in a qualitative study is different, despite dealing with the same issues.

The checklist items should be based on the conceptual framework and the resultant list of data needs, but new topics may emerge from the interviews, leading to an on-going modification of the checklist (Veal and Burton, 2014). As a matter of fact, other discussions and topics that seemed pertinent to the research were also pursued during the interviews: in several instances the designers - despite being asked specifically about the product chosen for the case study - spontaneously enriched their replies with facts and anecdotes from other projects, or expressed their general thoughts about issues in the design business regarding costs, economic constraints and market pressure.

Each interview started with a few pre-determined questions, essential question to frame the case and set up the discussion (e.g. "Can you describe the product you designed and the inspiration behind it?") , and to gather useful information about the respondent (e.g. "What is your relationship with the manufacturer of the product?") (Rasmussen et al., 2006). One question was common to all interviews: "Can you describe the main steps of the design process of the product?"; this was used to elicit a journey through all the steps that brought to the final product, leaving the designer free to express his remarks and reflections. No preferred method was used in order to raise the specific topics that constituted the interview checklist (comments about the form, material, and function of the product, budgets, costs of production, retail prices, commercial success of the product, approach to trends), they were rather addressed as the

interview unfolded, either spontaneously or prompted by the interviewer. The questions were posed as openly as possible in order not to influence the respondent, nevertheless it was ensured that all the issues were touched and discussed for a sufficient amount of time, repeating the question with a different formulation when necessary.

2.3 Data Analysis

Data analysis is an essential and completing part of research design to be conducted simultaneously with data collection, in order to get an understanding of the coherence between the research, the analysis and the conclusion (Maxwell, 2008). The literal translation of the five interviews was the first step in the analysis of the data collected, followed by the application of coding for data reduction and summarization. Coding is the main categorizing strategy according to Maxwell (2008), and it has been used in this research to break the collected data into parts, facilitate comparison, and generate themes and theoretical concepts. The coding analysis is developed with organizational categories: subjects or issues that a researcher establishes before conducting the data collection (Maxwell, 2008). Miles et al. (2013) defined two major stages of coding: First Cycle and Second Cycle coding. In the first stage, holistic codes were applied (Saldaña, 2009), which implied the application of “a single code to each large unit of data in the corpus to capture a sense of the overall contents and the possible categories that may develop” (Saldaña, 2009, p. 118). These codes were both concepts drawn from the theoretical framework and aspects that emerged during the interviews that expressed the commercial aspects of the design process. For example “form choice dictated by production costs” and ”material chosen because it’s trendy”. In this step the codes used were a mix of descriptive codes - labels that summarize in a word or short phrase the basic topic of a passage of the data - and in vivo codes that use extracts from the own language of the participant (e.g. “the manufacturer had a precise style in his mind”) (Miles et al., 2014). The interviews were not analyzed line by line, codes were rather used to absorb concepts (Dey, 1993 in Saldaña, 2009) and applied to entire paragraphs and sections of the different interviews.

In the second stage of coding, codes are summarized and grouped into categories, themes or constructs, according to the pattern coding method (Miles et al., 2014). This method is used to transform the data into a number of smaller analytic units, and elaborate a cognitive map to understand incidents and interactions across the different cases of the multi-case study, as pointed out by Miles et al. (2014). The concepts labeled in the first cycle of coding were gathered into four categories corresponding to the components of the product explored in the theoretical framework: form, function, material and expression. Within these categories pattern coding was also used to differentiate whether the pressure to conform to commercial imperatives came from the manufacturer or the designer himself.

2.4 Validity, Reliability and Generalization

An important requirement for any study, including qualitative ones, is the justification and verification of knowledge produced. According to Kvale (1996), verification of knowledge in social sciences is addressed in relation to the concepts of validity, reliability and generalization.

2.4.1 Validity

According to Kvale (1996), “the validity of an investigation rests on the soundness of the theoretical presuppositions of a study and on the logic of the derivations from theory to the research question of the study” (p. 237). The same concept has been addressed by Yin (2009) with his definition of construct validity: “identifying correct operational measures for the concepts being studied” (pp. 40-41). In this study, construct validity is achieved by drawing from existing theories in order to explain how and to which extent commercial imperatives influence the design of furniture products, supporting the study and answering the research question. Kvale (1996) also points out that “the validity of the knowledge produced depends on the adequacy of the design and the methods used for the subject matter and the purpose of the study”, and that a valid research design involves producing beneficial knowledge (p. 237). The adequacy of the methods used has been addressed when clarifying the reasons behind the choice of a qualitative multiple case study. Even though a single-case study which relies only on one single

method - qualitative interviews - can be seen as subject to vulnerability, the design chosen is valid to produce beneficial knowledge, as it allows to get in-depth and qualitative insights from a relevant group of people - designers - in a relevant context, the furniture industry. The process of interviewing, transcribing and analyzing the interviews was carried out in the most accurate way possible, as "the trustworthiness of the subject's report and [...] the quality of the interviewing itself" provide validity to the research (Kvale 1996, p. 237), and a full transcript of one of the interview is included in the appendix. The validity of the process of analysis process was achieved by choosing the most relevant and suitable method for the type of study, coding.

2.4.2 Reliability

Reliability concerns the consistency of the findings and the minimization of errors and biases in the research. A study is reliable when, following the same procedures and studying the same cases, later investigations are likely to arrive at the same findings and conclusions (Kvale, 1996; Yin, 2009). Specific issues may weaken the reliability of a case study when qualitative interviewing is used, for example the influence on the answers exerted by the researcher's pre-understanding of the question, as well as their categorization in the coding process. Nevertheless the semi-structure of the interviews is a derivation of the theoretical pre-understanding - the constituents of the product - and leading questions were avoided. The analysis was conducted trying to avoid biases and leaving room for unexpected results. The procedures followed throughout the research have been documented above, allowing other researchers to repeat a case study and confirm its reliability, as suggested by Yin (2009)

2.4.3 Generalization

Generalizability, or external validity, is part of Kvale's "scientific holy trinity" (1996, p. 229), and it concerns whether the findings of a study can be generalized (Kvale, 1996; Yin, 2009). As qualitative case studies do not rely on statistical generalization, Kvale (1996) replaces universal generalizability with a softer generalizability based on contextualization, emphasizing the heterogeneity and contextuality of the knowledge. This analytic generalization implies a

reasoned judgement about the extent to which the findings from one study can be used as a guide for other studies, or generalized to some broader theory (Kvale, 1996; Yin, 2009). From this perspective, the findings of this study are externally valid as they are a source of knowledge that can be used for further studies, and add to the theories presented in the theoretical framework. The study also used a multiple case approach in order to increase the generalizability of the findings, but only focused on a single - yet relevant - category of respondents: designers. This study cannot be considered universal and statistically generalizable, but as a multiple case study, the validity of its generalization relies on the relevance of the attributes compare, the richness of the description of the case and the usefulness of the findings for further studies and broader theories (Kvale, 1996; Yin, 2009).

3. The Cases

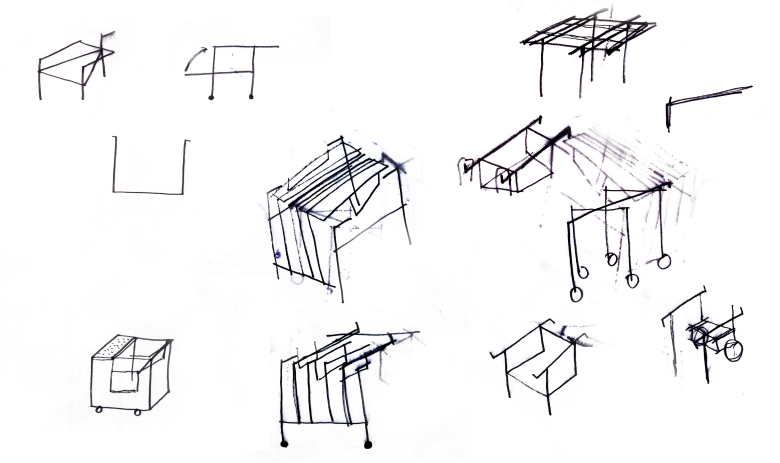
The following chapter will present the cases analyzed in the research, as recounted by the designers during the interviews. As a consequence, the perspective is the one of the designer and - given the angle of the research - particular emphasis was given to the economic and commercial issues emerged during the design process. Each case is followed by a brief profile of the designer.

3.1 The Confetti Trolley - Derya Arpaç

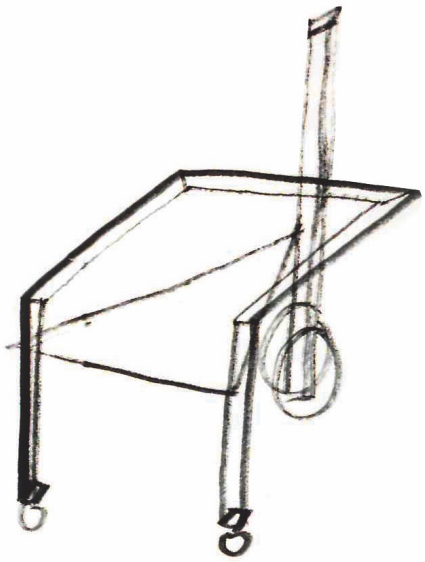
The Confetti Trolley is a reinterpretation of the classic mid-century drinks table by Turkish designer Derya Arpaç, produced by the Danish brand OK Design. It is composed by a three-legged coated steel frame (black or white) topped by a terrazzo top, and can be used both as a drink trolley and a side table. Derya approached Kirsten Krogh, co-owner of OK design, during her last year of studies at The Royal Danish Academy of Fine Arts, asking to be offered a design project that she would carry out for free, in exchange for royalty rights in case the design went to production. Krogh saw that as a risk-free opportunity and assigned her an item, the trolley, and materials, terrazzo and steel, for Derya to experiment with. The producer already had a design in her mind, a "Bauhaus kind of piece", "structural, minimal and sculptural" (Arpaç, D. Personal interview. 28 June 2017), being the trolley not a fundamental piece for a home but rather a luxury one. The design process started from a

Black version of the Confetti Trolley

research on drink trolleys performed by the designer, which led to the conclusion that the Trolley had to be a flexible item that could adapt to a side table, “the form came through the function” (Arpaç, D. Personal interview. 28 June 2017). The design process started out with a series of sketches, with several variations in terms of size and function: there was a one larger in size, one with more levels, and a multifunctional one, in which the terrazzo top could be removed to be used as a standalone tray. The company opted for the most minimal and simple: a basic outline of a table with three legs and wheels. Among all the sketches they chose the one that had actually been the easiest to design, appreciating its minimalistic form. Physical scale models were created (1:10 and 1:5) in order to get the main proportions, followed by 3D modeling on the computer, where materials were tried out and the form tested in detail, including technicalities like the working of the wheels and the connections. In the original design, Derya wanted to create an inlay below the terrazzo piece, in order for the metal structure to click into it and be hidden from sight, but the producer asked for a change to that due to the high cost of cutting terrazzo. According to Derya, this is the point when she started thinking about costs of production. Being



Initial sketches of different trolley shapes



First sketch of the three-legged trolley

a small company, OK Design had a friendly attitude towards Derya, teaching her a lot about industrial production and the differences in working with commercial products rather than artistic pieces. According to the designer, the Trolley design was “about [her] imagination” (Arpaç, D. Personal interview. 28 June 2017), because she already had a not so expensive material assigned for the project, and her choices were more about the technique and the form . At the end of this process three from prototypes were made, the average for any product design before going to production. In addition to that, Derya had to make her own prototype to shown during her exam, since the project was also part of her education in Architecture and Furniture Design. This prototype was a slight variation on the original design made for OK Design. For this one, the designer chose to cut metal rather than bend it, to have sharper edges, but that was deemed as a mistake, because the natural way of working with metal is bending. This procedure didn’t respect the identity of the material, but Derya claimed that she was aware of that, and that hers was a design choice. The trolley was Derya’s first design to be industrially produced, and its commercialization was taken by her with a rather naive approach. After accepting the royalty based deal, she was advised by her professor that she should have asked for a yearly advance of money, a common practice for items that are known for low sales like a trolley, an unnecessary piece of furniture. Initially Derya also had no idea of the retail price of her Trolley. Currently it is sold for 3,490 kr., and around 100 pieces are sold annually. The Trolley was included in several international design and interior magazines - also due to the popularity of terrazzo - and it was featured in a Bang and Olufsen advertisement. This media coverage fostered Derya's expectations about the future

Full-scale prototypes of different versions of the trolley

success of the trolley, and prompted the producer to increase its price. Nevertheless the royalties given to the designer are a percentage of the wholesale - a practice common in the furniture industry - which is one of the reasons the designer does not pay too much attention to retail prices. Derya is very satisfied with the final design of her Trolley - something that doesn't happen for all of her products - and the only thing that she would change about it is, oddly, the terrazzo top. Despite being aware that the popularity of the product lies in the trendy material used - leading it to be picked up by stylists and editors - she finds this type of trends uninspiring and too consumeristic.

The designer

Born and raised in Turkey, Derya Arpaç is an architect and designer based in Copenhagen, where she received a MA in Architecture from The Royal Danish Academy of Fine Arts in 2016. She was included as young talent in Wallpaper* magazine Graduate Directory in 2017 and her pieces have been featured in several exhibitions, publications and commercials. She considers her designs as a study in how people interact with the products they encounter in their daily lives, and how they find the most fitting use for them.

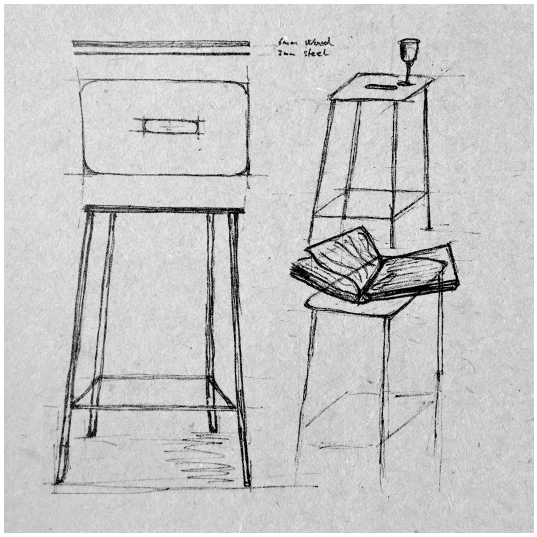
3.2 The Adam Stool - Toke Lauridsen

Designed by Toke Lauridsen for the Danish brand Frama, the Adam Stool is a simple stool inspired by industrial design. It is composed by a steel frame topped by a flat, rectangular seat covered in solid oak or leather. It is produced in three different sizes and four different steel coating colors. The designer named the stool after his son Adam, also due to the resemblance of the chair silhouette to the letter A. In the words of the designer, the inspiration and the starting point for the design of the stool was the the material, the strength of the steel and its possibilities. Being a steel-smith rather than an educated designer, he started with a very hands on approach: with the idea of a stool with a thin silhouette and a hole in the seat, reminiscent of a painter's color board, he started trying out with steel in order to reach his desired outcome . The technicalities and bearing points of the material were pushed to their limit: the steel plate for

the seat ended up being 3 mm thin, which is the minimum possible for a steel chair, and the initial tubes for the legs were reduced by 1.5 mm to a minimum, to ensure stability while giving lightness to the form. According to the designer, compared to drawing, this concrete approach allowed him to keep the design simple and understand what was possible and what was not throughout the design process. The hole in the middle of the seat was intended by Toke to give more character to the stool, but also to make it possible to move it with just one hand, putting together “function and form” (Lauridsen, T. Personal interview. 5 July 2017). The first prototypes of the Adam Stool, 2 or 3 pieces, were crafted in 2010 in Toke’s workshop in the Kødbyen district of Copenhagen and put on display in the window. But “they were standing around [...] and nothing was really happening” (Lauridsen, T. Personal interview. 5 July 2017). He tried to sell the stools in a nearby interior design store but soon decided to pull them out because he would have had to carry out the entire production and the retailer would have charged a price triple the production cost; this way the stool would have ended up being extremely expensive (around 9,000 Kr.) and he

The Adam Stool in the three different sizes

Final prototypes at the designer’s workshop



Sketches of the function of the stool

didn't want that. This initial models were completely made of steel, until the designer - around one year after designing the first stool - had what he calls the “eureka moment”, in which he thought about adding a wooden top. A week after that Niels Strøyer Christophersen, co-founder of Frama, saw the stool while passing by at the workshop and decided to buy the rights to produce and commercialize the stool, offering Toke a royalties contract. He appreciated the minimalistic design, the versatility of the stool - it can be also used as a side table - and the fact that it is inexpensive in terms of materials and production: “it cannot be cheaper than that” (Lauridsen, T. Personal interview. 5 July 2017). Technical drawings of the stool were made and production moved to Lithuania, in a factory that produces road signs, so that the necessary laser cutting technique didn’t require any additional investment. The measure of the seat top adds up to a full steel sheet, with minimal waste of materials. No changes were made to the initial design, as otherwise the stool would not be able to bear weight.

Raw steel top of the stool

However, Frama decided to produce the stool in three different sizes and add different colors to the initial black one - white, grey and green - and the option of a leather top in black or tan. The designer was consulted for this decision. Due to its success, the company also came up with the idea of extending the product line to include an Adam Bench - which is currently produced - and asked the designer to design a high table, but this idea turned out to be unsuccessful as the table was unstable due to its big size. Frama made the Adam Stool their

signature piece and started a massive promotion of on social media, sector publications and using it in a number of their interior design projects, including stores, restaurants and museums.

The Adam Bench

This led the Adam stool to be included in the permanent collection of The Danish Museum of Art and Design, a sign that it is already considered a significant example of contemporary Danish furniture design.

The designer

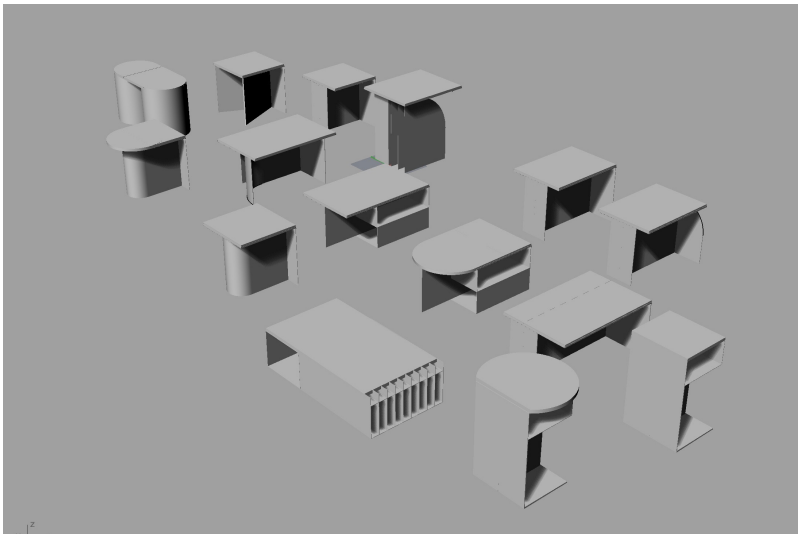
Toke Lauridsen is a Danish steel-smith and designer based in Copenhagen. His works mostly include unique handcraft ornamental pieces and made to order products. As a designer, he created the Adam stool, produced by Frama, and the ArtDeco table, the only product commercialized under his own brand *Toke Lauridsen og Kleinsmed*. Being first and foremost a blacksmith, he has a highly material and hands-on approach to design, with the metal and its properties as the starting point for his creations.

3.3 The Azul Bahia Tables - Tino Seubert

The Azul Bahia tables are a set of three side tables designed in 2017 by Tino Seubert for Gallery Bensimon, to be displayed for the first time during the trade fair Maison and Objet in Paris. Their design is inspired by post-modernist architecture and they combine a clean polished stainless steel structure with a Azul Bahia granite top. The project actually stemmed from another project, a side table commissioned by a private client for his home. Tino wanted to

The set of three Azul Bahia Tables

use Azul Bahia, a rather rare and expansive blue marble from Brazil, but this material cannot be bought in small quantities and a side table wasn't big enough to justify the purchase. During an informal talk about the project at Gallery Bensimon, the choice of marble triggered the interest of the gallerist, who offered to buy a large piece of marble that he could use for his commission, if he used the rest to create something for them. So the designer and the gallery teamed up in order to make the project financially feasible. The design of the tables naturally started with the material of the top in mind, and followed with 3 or 4 round of sketches and renderings discussed together with the gallery, especially in terms of the material for the base, which ended up being also a rather expensive one: polished stainless steel. The first design proposed to the gallery was rougher and more industrial and, "probably a bit harder to put in a home environment", prompting the gallery to ask for a simpler and easier design, in order to "make the project a bit commercial" (Seubert, T. Personal interview, 25 July 2017). The gallerist told Tino that he really liked the tables but they were too avant-garde, and people might not appreciate them. The final design was satisfying both for the gallery and the designer, as "it wasn't too much of

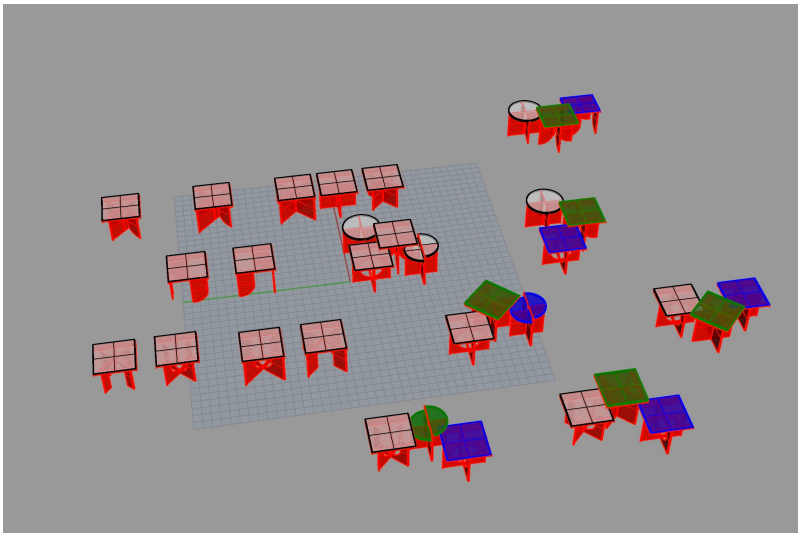


3D CAD image of potential shapes for the tables

Realistic rendering of the rejected versions of the tables

a compromise and [...] the combination of materials was already quite pushing" (Seubert, T. Personal interview, 25 July 2017).

The project developed without a budget; the tables were designed first and then priced - between 1,850 and 1,950 euros - after the production costs were determined, following a practice typical of unique pieces rather than mass-produced items. Nevertheless the designer expressed the feeling that, when it comes to the economic aspects, working with a gallery is not much dissimilar to working with a company, as their main interest is their margin and they push designers to create something that can be sold at a certain price and that is not too elaborate. The gallery also indicated the function of the tables, as they wanted them to be a set of three coffee tables to be used together as one, restricting the choice that the designer had in terms of form (Seubert, T. Personal interview, 25 July 2017). Tino claimed that if he didn't have had to follow this specific directions he would have designed the tables more freely, but that the company had this very specific idea on "how they wanted to sell them".



Study of table set configurations on CAD

The initial production consisted in ten tables that were sold out, turning out to be more successful than expected. Despite the uniqueness of the project, the Azul Bahia tables are still available as a made to order item.

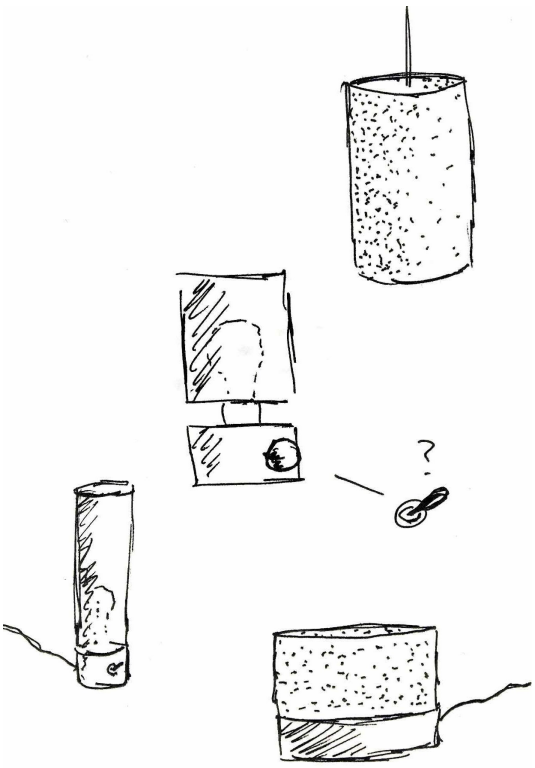
The designer

Tino Seubert is a German product designer with studio in London. Since his bachelor studies in Bolzano (Italy) and Paris, he has been working for art galleries and carried out several interdisciplinary projects. He sees conceptualization, design and production as a broad, cumulative process, and finds it important to be involved in each step. History and contemporary art are his inspiration, as well as material research and science.

3.4 The Turn Lamp - Hans Peter Munk

The Turn Lamp was designed by Hans Peter Munk in 2016 in order to create a light-source that has more than one possible use; it functions as a table lamp but can be turned upside-down to function as a pendant lamp. The lamp has a cylindrical shape made of steel, either polished or powder coated, and the surface is perforated to cast geometric shadows on the surrounding materials. The name refers to the the possibility of turning the lamp to change its function, and to the round switch used to turn the light on. Hans Peter's idea was to design a lamp as simple as possible, cheap to produce and that could sell in large volumes. This was due to the success of a lamp called Concrete Lamp produced by their competitor Menu, which is a best selling item for the company. Hans Peter and his business partner decided to try to come up with something similar, a simple and not too expensive lamp (below 1,000 Danish Crowns) whose light could be dimmed through a switch. According to Hans Peter everything we surround

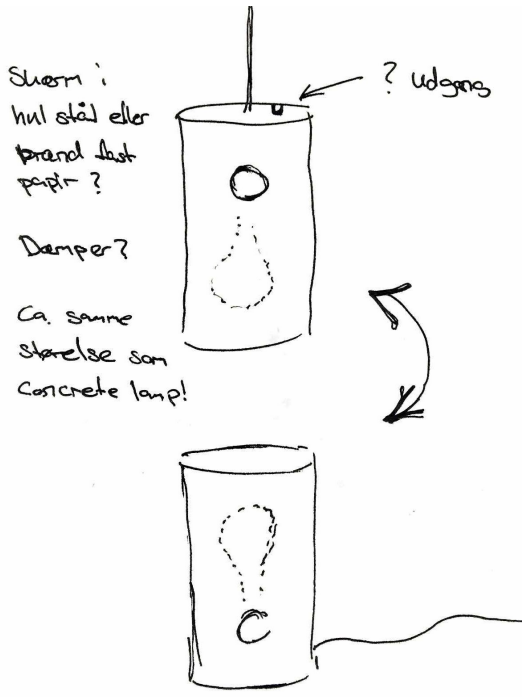
Turn Lamp exhibited at Munk's studio



Sketches of potential lamp shapes

ourself with is based on feelings, and tastes are so volatile and diverse, that the key for a successful product is simplicity. The inspiration for the lamp's form came from an old oil lamp sitting on a shelf of the designer's home, and a 70s perforated metal pendant that he saw in a flea market. He came up with the idea of adding a hole in the structure so that the pendant could actually be used as a table lamp too.

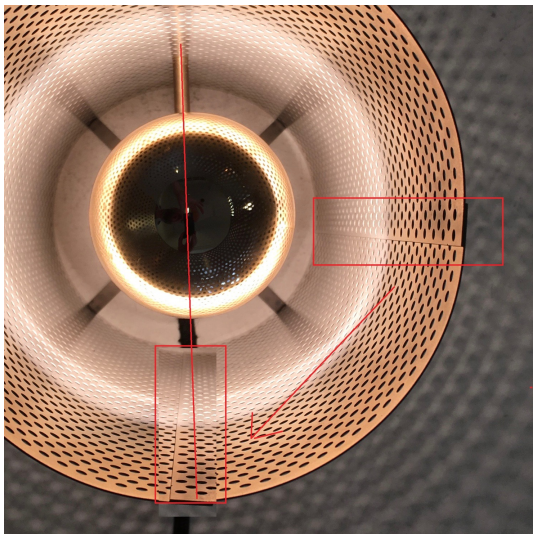
He then designed a lamp that was "pretty basic" (Munk, H. P. Personal interview. 7 Aug. 2017) and immediately submitted it for feedback to the buyers at Illums Bolighus - a renowned Danish design department store in Copenhagen - asking if that was a lamp that they would sell. The retailer saw a rather high resemblance with the Pedrera Lamp produced by Gubi, but they were eventually convinced that the Turn Lamp was recognizable enough due to the switch, the lack of a pedestal and its double function of table lamp and pendant. Another aspect that pushed the designer to add a lamp to his brand portfolio was the ability of such product to be picked in large quantities by architects for interior design projects such as restaurants and cafes. He especially



Initial sketch of the lamp double function

envisioned the Turn Lamp as a restaurant pendant lamp that could be dimmed by the customer according to their needs. Initial production was carried out by a new Danish contractor who promised that the lamp could be produced as intended, but eventually moved back to the usual Chinese one. This was due the fact that it is not possible to have dimming switches on traditional E27 bulbs, and the Danish producer failed to notice that, causing delays in the commercialization of the product. Currently the Lamp light cannot be dimmed as initially intended. This is a feature that Munk aims at introducing in a future version of the lamp. The choice of material was based on a gut feeling of the designer that steel would make a comeback in the design world, as "we haven't seen steel in about ten years and [...] it's more industrial" (Munk, H. P. Personal interview. 7 Aug. 2017). Black was added as a color because it "always works" (Munk, H. P. Personal interview. 7 Aug. 2017), but brass was purposely avoided, as deemed by Hans Peter to be too commercial at the moment. The designer also had a very precise final retail price for the lamp; he designed the lamp in order for it to not to surpass the psychological threshold of 1,000 Kr.. He aimed at keeping the price below a thousand Norwegian and Swedish Crowns as well, but production costs didn't allow it. Currently the Lamp is not selling in large volumes, but it is doing well in the few retailers that offer it. According to Hans Peter this is due to the lack of wholesale activities of his company, which has been under a restructuring process during the

Realistic rendering of the Turn Lamp as a pendant



Detail of the corrections on the first lamp produced

last few months and still doesn't have a sales responsible. The designer has high expectations on the commercial future of the lamp, and he is already conceiving an extension of the Turn Lamp line with more colors and premium materials.

The designer

Hans Peter Munk started his career as sales manager for Danish design companies Vipp and Muuto. In 2012 he established MUNK, an interior and furniture store in Copenhagen that turned into a community of designers and architects. Nowadays MUNK Collective is a brand taking care of the production and commercialization of the designs of several well known Danish designers, as well as Hans Peter himself. As a designer, he aims at pushing and challenging current trends, with a global mindset not confined to the traditional Scandinavian style.

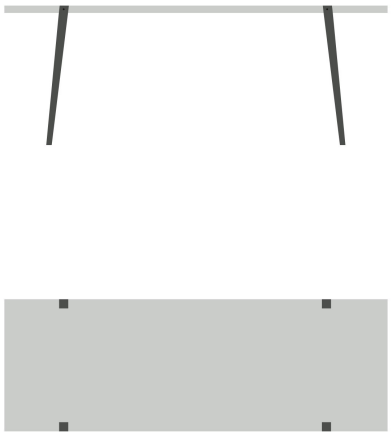
3.5 The T1 Table - Anders Kirkebjerg Olesen

The T1 is a table designed by Anders Kirkebjerg Olesen for the first furniture collection of Danish brand Frama in 2011. It is a slim dining table manufactured from ash and steel. The cuts in the wood fit triangular steel support brackets, highlighting the supportive structure and giving the table an industrial finish. It is available in two sizes, with length of 200 cm and 240 cm respectively, intended for both work and leisure. Frama approached Anders on Facebook after seeing some of his work, asking him if he had any designs they could use for their first collection of furniture. At that time Frama was a new and small design company, producing only light bulbs and pendants. After proposing a couple of

The T1 Table

chairs and some accessories, they decided for a table. Being a young designer working for a young company, Anders knew that for his design to be picked it had to have low production costs, and consequently focused on keeping the design very simple. He offered the company four different versions of the table, and the final one was chosen because it was “easy to produce, with a simple aesthetic and look” (Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017). Moreover such a simple table would easily match different types of chairs - increasing its flexibility of use - and allowed the option of a linoleum top, for use in the contract market. The production of the T1 was characterized by a certain naivety and lack of skills in setting up the processes, due to the the fact that Frama was working “more like an agency” and had no experience with manufacturing. This led to disagreement between the company and the designer on how and where the table should be made; after the first test pieces built by a carpenter in Copenhagen, production was outsourced to manufacturers in Lithuania and Poland to contain costs, but the pieces came back flawed, including wrong metal coating and low quality wood. Nevertheless the company used these pieces for a promotion on a magazine, for the disappointment of the designer. Frama also had a disagreement with the designer over a version of the table that was supposed to be created for

Rendering of an alternative table proposal for Frama



Initial digital sketch of the table

Detail of the corrections to the first piece produced

the Carlsberg company canteen. The company promised their client a 7 to 10-meter long version of the T1 table, but soon realized it was not possible to realize such a big version of the table without major changes to the design. The designer claimed the company just cared about selling more units and completely disregarded the aesthetic integrity of the product and the role of the designer in such decisions. The whole project was eventually discarded. According to the designer it took 6 years for the company to set up proper production for the table, first in Denmark and then in Sweden. The retail price for the table changed several times depending on where the production took place; from an initial 11,000 Kr., the price went up to around 15,000 Kr. when production was moved back to Denmark, and currently it is priced at 21,000 Kr., with production taking place in Sweden. Sales are very low at the moment. Anders revealed that only around 10 tables where sold in the past few years; he blames this lack of commercial success to the excessive price. According to the designer, such an expensive table should be made at least in oak, as customers don't expect a soft wood like ash for that price. Another factor could be that the aesthetic of the table was "a bit far ahead" (Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017) when it was introduced to the market. According to Anders back then the New Nordic


Detail of the metal brackets

aesthetic just started gaining mainstream popularity, therefore their table was being recognized and mentioned in trade fairs, but that didn't result in sales to the large public. Moreover Frama had no idea which direction they wanted to move in with their brand, and nowadays the T1 table - with its Scandinavian modern look - doesn't fit with Frama's new aesthetic of "Art Deco" with a touch of "Italian richness" (Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017). At the moment the future of the T1 table is uncertain; different companies including Norman Copenhagen and Hay offered to buy the rights to the table, but the designer is not interested in withdrawing them from Frama and go through the commercialization process all over again.

The designer

Anders Kirkebjerg Olesen is a Danish designer from the School of Design of The Royal Danish Academy of Fine Arts. In 2009, together with two friends, he founded design studio A/L/O, and worked with several Danish furniture manufacturers until 2015 when the founders parted ways to pursue individual projects. Anders has since then worked on his own, seeking to extend the A/L/O approach by mixing his experiences in graphic and furniture design, communication, art, fashion and architecture. His inspiration comes from his obsessive interest in objects, shapes, function, nature and materials.

4. Analysis of Findings

4.1 The Impact of Commercial Imperatives on Material

The material of a product is not always determined by the designer; different scenarios emerged from the cases analyzed: the material was either chosen exclusively by the designer, by the manufacturer or jointly by the two. It is not uncommon for a designer to be assigned a material directly by the manufacturers; in those cases the designer has to work specifically with that material, which becomes the starting point of the whole design process (I1)(I5). It is not uncommon that a certain material is chosen because the manufacturer already has production tools and technologies for it, so that no additional investment is necessary (I1)(I2). Sometimes conflicts arise between the manufacturer and the designer due to the manufacturer's reluctance to experiment with new materials:

"[...] *and he was never open to new materials or new ideas. It was always simple things, the cheapest way.*"

(Arpaç, D. Personal interview. 28 June 2017)

This reluctance usually came from the material being too expensive (I4)(I5) or resulting in objects too complicated to produce (I1). Moreover designers are pushed to use as few materials as possible, as a higher number of materials implies more steps in the production process, increasing costs. Distribution costs also play a key role in the choice of material, and heavy materials are not favored as they are difficult and expensive to transport and ship to retailers and end consumers (I1)(I3)(I5). These limitations come either directly from the manufacturer, in the form specific directions and design briefs, or are taken into by consideration by the designer himself as conditions to conform to in order to make his product commercially viable. For example, even when the material was completely chosen by the designer, such as in the case of the Adam Stool, the choice of the company to produce the item was determined by the low

cost of the material; when asked about what Frama liked about it, the designer replied that the stool's design fit their style but he also added that the low cost of the material was also a determinant:

"[…] and it's a really inexpensive material. It's some tubes and massive steel rod for the foot rest, it cannot be cheaper than that."

(Lauridsen, T. Personal interview. 5 July 2017)

Another major motivation behind a company's choice of certain material is the popularity of that material among the public, or the potential market appeal it can have:

"*Manufacturers are good at capturing what's going to be popular so they assign you those materials."*

(Arpaç, D. Personal interview. 28 June 2017)

The choice of a trendy material is usually made by manufacturers because a trendy product results in brand exposure and sales (I1)(I2)(I4), while designers prefer to use materials that trigger their creativity (I1)(I2)(I3) and fit with their design language (I2)(I5). In none of the cases analyzed the designer was completely free to choose the material to use. Nevertheless when the material is chosen by the manufacturer, the designers mentioned that they can focus more on the creative use of it (I1)(I5); the focus then is on the form, and the material can change over time in order to follow trends (I1)(I2)(I4)(I5). This characteristic is highly regarded by manufacturers because it is a compromise between the goals of the designer, who aims at creating a timeless piece, and the ones of the manufacturer, who can adapt the same product to different market conditions. Despite valuing more creativity and innovation, designers also recognize that the use of trendy materials allows their product to be picked up by stylists and editors, receiving exposure that gives popularity to their designs (I1)(I2)(I4)(I5).

4.2 The Impact of Commercial Imperatives on Function

Products can be designed to have multiple functions, that can change over the a time or according to the situation (I1)(I2)(I3)(I4)(I5). Therefore the function of a furniture piece doesn't have to be necessarily the most obvious and straightforward, the designer can play with the design of an object in order to give it a new one:

"People don't use drink trolleys, it's a luxury piece and actually it was through my research that I started to think that it should be a bit more flexible, a sort of side table rather than a drinks trolley."

(Arpaç, D. Personal interview. 28 June 2017)

As in the case above, a new function can be assigned to a furniture piece through design in order to make it more adaptable and commercially appealing. This can come from the inspiration of the designer, who envisions all the possible uses of the product while designing and gives it a form accordingly (I1)(I2)(I4)(I5).

"The inspiration - or the form of it - actually comes through the function that the object is supposed to have".

(Arpaç, D. Personal interview. 28 June 2017)

Through the form the designer may suggest the user new and unexpected functions that the object can have (I1)(I2)(I4), as in the case of the Adam stool, which was intended by the Toke Lauridsen to be used also as a side table:

"The goal was to show [that] the seat can be totally flat so you can put objects on it."

(Lauridsen, T. Personal interview. 5 July 2017)

Versatility in terms of function is sought after by manufacturers because it fosters sales and offers the possibility of using the product in an array of interior design projects. For example, the success of a simple furniture item like the Adam Stool is largely derived for the ability of the marketer to sell it as a multifunctional object and place it in a variety of settings:

"Now Frama has put it in so many settings… They sold it to school canteens, restaurants and bars. It is used in many places, also as decoration in shops… I even saw it with some shoes on it."

(Lauridsen, T. Personal interview. 5 July 2017)

Sometimes it is the manufacturer to explicitly influence the design of an object by assigning a desired the function, conditioning the choice of the designer regarding form and expression (I3) (I4):

"What the gallery told me is that they wanted three tables that you can put together and work as a bigger table, next to the sofa, which was very specific. [...] I would have just designed them separately not really thinking about where exactly they would be standing. But they had a very specific idea on how they wanted to sell them"

(Seubert, T. Personal interview, 25 July 2017)

This example clarifies how the marketer can be the one deciding the function of the product depending on what they deem more commercially appealing (I4) or more profitable in terms of sales (I3), for example suggesting the customer to use three tables together rather than just one. The function of a furniture product can also be influenced by the potential usage of the object in situations other than the domestic environment, for example in commercial activities (I2)(I4)(I5). This is due to the desire of manufacturers to appeal the B2B and contract market, which is the area with the highest volumes of sales when it comes to furniture. The

commercially-oriented Turn Lamp was designed imaging its use in settings like restaurants and cafes:

"[...] so I thought that in restaurants people could turn it on when they are picking food and turn it down afterwards. And they can do it himself at the table. Cause there's not actually that many pendant lamps that you can dim."

(Munk, H. P. Personal interview. 7 Aug. 2017)

Different intended functions can also influence the choice of material, leading to the production of the same object in different materials depending on the use, for example a linoleum version of the T1 table:

"I thought that we could make it with different tops if we wanted to turn it into a working table… If the focus had been more to the contract market."

(Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017)

4.3 The Impact of Commercial Imperatives on Form

Form is a fundamental characteristic for the commercial success of a product, therefore it is not surprising that the desire of marketers to exert some control over the form of a product emerged in all the cases analyzed, together with the consciousness of the designer that a lot of the success of their design lies in the appeal of its form. Manufacturers cannot assign a specific form for a product in the same way they can do with a material, but they can still have a style in their mind and give rather precise instructions to the designer on what they expect as a final outcome (I1). In the case of the Confetti trolley, the manufacturer wanted to add a Bauhaus piece to their collection and required the designer to conform to that aesthetic:

"She wanted to have a structural, minimal, sculptural piece, it was actually quite to the point."

(Arpaç, D. Personal interview. 28 June 2017)

During the design process, designers always come up with a multitude of sketches they propose to the manufacturer; the company can give directions and feedback throughout the process (I1)(I2)(I3), or decide for a version only at the end of it (I5). In all the cases under analysis, the manufacturers tent to push the designer towards a design that was simpler and cheaper to produce industrially, or choose to produce the one that matched those characteristics:

"The simplest one was the one that she liked the most, which was three legged, basically just outlining a table with three wheels. What she really liked was this minimal form. It was actually really easy to design."

(Arpaç, D. Personal interview. 28 June 2017)

"Frama said that it has been the easiest thing to put in production because it is so straightforward, and they had the prototype and the drawings, and it is very simple in the construction with the tubes and top seat. So it is very easy to make many of them."

(Lauridsen, T. Personal interview. 5 July 2017)

For Munk, designer but also the producer of the Turn Lamp, creating a simple product was the starting point of the whole design process, with the aim of creating something with a simple form that had low production costs while being commercially appealing. The manufacturer can also request specific aspects of the form to be changed because the technique to render those details is too expensive or because it requires extra labor (I1)(I4)(I5):

"You don't really cut metal. The right way to do it is bend it, because it's easier for the manufacturer, and faster, and more efficient, and cheaper... definitely cheaper."

(Arpaç, D. Personal interview. 28 June 2017)

In the case above, the designer consciously chose to use a more expensive technique in order to reach the desired form for the Confetti Trolley, but she was prompted to change it by the manufacturer. Another aspect that manufacturers tend to influence in the form of the products is the size, asking to design objects bigger than intended by the designer (I1) or bigger versions of the same design (I2)(I5) because large items can be priced higher, and customers get more satisfaction from the purchase a bigger object (I1). Despite the conflicts that can arise, designers have to conform to these requests in order to get their design to production, and the only instances where the larger product was not produced it was because of technical issues like instability (I2) or weak structure (I5). On the other hand, smaller items are usually the most sold in terms of units (I1)(I3), and they are cheaper to produce and to ship, therefore manufacturers are keen on starting producing smaller items and introduce bigger versions only in a second moment (I2)(I3). The success of a product can prompt the manufacturer to extend the aesthetic features of it to other products, "to stretch it while keeping the same language of the design" (Lauridsen, T. Personal interview. 5 July 2017), for example in the case of the Adam Stool being turned into the Adam Bench, bigger in size and much more expensive than the basic stool. Colors are another of the most apparent elements of the form; they play an important role in the commercialization of a product and manufacturers tend to influence the color choice to align it to current market trends (I1)(I2) or to add different versions of the product in different colors to increase market appeal (I2)(I4)(I5).

The desire of brands to appeal to a market large enough to be profitable often leads them to favor simple form, clashing with the desire of designers to create something creative and more avant-garde (I1)(I3)(I5). Talking about her previous experience at Stockholm-based Note Design Studio, Derya Arpaç revealed the pressure put on the designers by the company to design using simple, mass-market oriented forms:

"The Head of Product Design started to think so much about how much products were going to sell, that the design became so much involved in that. He wanted us to work with the simplest

forms, not too expressive, because those are the things that sell most because… You are not selling things only to designers, or intellectuals or artists."

(Arpaç, D. Personal interview. 28 June 2017)

In a similar way, Tino Seubert was urged to change the initial design of his Azul Bahia Tables because their form was too avant-garde and not commercial enough:

"When my gallerist saw them he really loved them but he thought they might be a bit too avant-garde, and people could actually not like them… Maybe in a few years, but now they might be a bit controversial."

(Seubert, T. Personal interview, 25 July 2017)

Following the marketer's desire to produce simple products can create frustration in designers (I1)(I3) and result in products that are too simple and not appealing to them, "almost not design" and not respecting their "expressive language" (Arpaç, D. Personal interview. 28 June 2017). Nevertheless designers recognize the importance of creating furniture pieces with aesthetics that fit easily in a home environment (I1)(I2)(I4). Talking about the form of successful products, Derya Arpaç tried to summarize the approach of manufacturers with an effective sentence:

"Successful brands, it's kind of clear what profile they have. They make cheap production, simple, minimal, or they are just glorious and all that… And they are expensive"

(Arpaç, D. Personal interview. 28 June 2017)

The strategy - creating simple products that can be sold for a price much higher than the production costs - is clear to designers, but still they are reluctant to conform to it and "creating something that is unique, eye catching and that has a unique form" (Arpaç, D. Personal interview. 28 June 2017) is their main driver when designing. Form comes from their creativity and design language rather than from the desire to appeal the market (I1)(I2)(I3)(I4)(I5).

Conforming to the overall aesthetic of the brand is also another main requirement for a design in order to reach production (I1)(I2)(I4)(I5). Customers are expecting specific aesthetics from specific brands and offering a product that doesn't fit with the brand can result in poor commercial performance (I1)(I5). This is especially apparent in the case of the T1 table no longer matching Frama:

"They had the table since the beginning but then they changed their aesthetic, it is not longer a Scandinavian modern approach... It's more Art Deco and they added this kind of Italian richness to it [...] it's not as Danish as our table."

(Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017)

Therefore a careful analysis of the aesthetics of the other products from the company emerged as one of the first steps performed by the designer when starting a commercial project, and that influences their choices in terms of form (I1)(I5). In the case of the Adam stool, the designer developed the product without a brand for it, therefore free from this influence, but still the aesthetic match with Frama was the factor that ultimately led to its commercialization:

"He [Niels Strøyer Christophersen, co-founder of Frama] *was also happy that it was perfect for his vision and company. It really fits his company."*

(Lauridsen, T. Personal interview. 5 July 2017)

What emerges from the cases analyzed is that the final form of the objects is a compromise between the creativity of the designer and the requirements of the manufacturers, who are willing to produce items with affordable production costs, appealing to their target market and fitting with their brand.

4.4 The Impact of Commercial Imperatives on Expression

As the practice of design involves more actors than the designer only, they all play a role in the expression of product, influencing the final outcome of the design process beyond the inspiration and the beliefs of the designer. Regarding this aspect, what emerged from the cases analyzed is the relevance of the relationship between designer and manufacturer. When collaborating on a product, this relationship is especially influenced and dependent on two factors: the size of the brand and the fame of the designer (I1)(I3)(I4)(I5). Bigger companies usually pose less economic restrictions to designers, and they allow more creative freedom (I1)(I5)(I4). Famous designers are also granted more freedom; they have more bargaining power as brands know that they will benefit from their fame in terms of sales and recognition (I1)(I5).

"Some brands are so big that they don't care… they just say 'go crazy, we don't have any budget', 'you don't need to think about the costs, we solve those problems, just create something beautiful'. Because they have billions of solutions, they have been working with these products for so long. That's the goal, be able to work with this kind of brands. Because you get limited with the smaller companies".

(Arpaç, D. Personal interview. 28 June 2017)

The company's attitude towards this relationship "*is actually defining your design"* (I1), as the designer needs to align to the brand not only in terms of aesthetics but also in the way to approach design, so the company analysis is the first step in the design process, a step that will have a great impact on the final outcome (I1)(I5):

"[...] it's what kind of materials do they use, what do they produce, who's the user... Like who's going to buy this? So after all these things you're halfway through how the design is going to be."

(Arpaç, D. Personal interview. 28 June 2017)

Sometimes it is the company itself to disclose all of these details info in the brief, telling the designer “we sell this much, to this user, to this market” (Arpaç, D. Personal interview. 28 June 2017). In the case in which the product was designed before any producer joined the project, the designer expressed the importance of the product fitting the vision of the company that eventually picked it up, as that was the reason they “*could then take it to the market”,* whereas the designer alone *“could not do that” (I2).* All the designers interviewed, except for Hans Peter Munk, who is also owner of the brand, recognize a clear distinction between their role in the design process and the one of the the manufacturer. All the aspects relative to the production and commercialization are problems left to the manufacturer to solve:

“The fun part about being a designer is not having to take care about economic and production issues, because it’s the manufacturer’s task. [...] It’s a long product development, which is their responsibility, yours is the design development. They are responsible for making it work in the best and most cost-efficient way.”

(Arpaç, D. Personal interview. 28 June 2017)

“It’s the company thinking about selling, you don’t think about it as a designer”

(Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017)

Designers also acknowledge that manufacturers know how to make things and how to market them, accepting their influence as suggestion rather than a constriction *(I1)(I2)(I3).*

“[...] and the manufacturer actually tells you how to do stuff, because they know better… In most cases.”

(Arpaç, D. Personal interview. 28 June 2017)

Companies and galleries also have a better understanding of what price people would pay and what kind of products they favor. Even in the Turn Lamp case, where the designer was also the

manufacturer, retailers were consulted about the potential commercial success of the product, allowing them to have an influence on the final design of the product.

Experienced designers know how things are produced and which processes are expensive and which are not, and even if they want to stay true to their inspiration they also wonder *"how can [the product] be made in the easiest way possible"* (Seubert, T. Personal interview, 25 July 2017) in order to please the manufacturer (I1)(I2)(I3)(I4)(I5). They express the feeling that production techniques can limit creativity, but they know that the first rule if you want to have a design produced is taking into account the way it is done. Even when a design cannot be made simpler or cheaper, or the designer urges that "it has to be the way I want to make it" (Lauridsen, T. Personal interview. 5 July 2017), the designer knows that he has to aim for simplicity, trying to maintain the character of the design, the function and the form in some kind of "puzzle" (Lauridsen, T. Personal interview. 5 July 2017).

In some cases, having a budget or having to abide commercial constraints is considered not as much as a limitation to creativity but rather something that *"pushes you, so you actually start to make your brain work hard"* (Arpaç, D. Personal interview. 28 June 2017). In those cases focus goes more on the form rather than the materiality, and "it's more about imagination" (Arpaç, D. Personal interview. 28 June 2017). Nevertheless in several instances limitations to the designers creative freedom were explicitly posed by the company, favoring simplicity over creativity in order to contain costs (I1)(I3)(I4)(I5):

"Jacob, who is the partner running the finance, was like 'Ok this is too much, this is too expensive…" and he was never open to new materials or new ideas. It was always simple things, the cheapest way. So then it kinda get a bit boring after several products you have to work that way"

(Arpaç, D. Personal interview. 28 June 2017).

Young designers know that since “they don’t have a name” they need to focus on creating something simple that can be produced easily. This is usually recognized as a condition for a young designer to get his design produced (I1)(I5):

“When they saw this they said ‘Ok this is perfect because it’s super cheap to produce, we will do it’”.

(Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017)

In general designers don’t think about the commercial appeal of the product while design, they just want to do something true to their creativity and beliefs. Nevertheless their ability to understand the commercial dynamics is a requisite to start a career and thrive in the furniture design industry (I1)(I4)(I5). Many young designers don’t manage to get their designs industrially produced because they fail to understand commercial requirements and to capture the difference between an artistic project and industrial design, which is the fundament of a designer’s activity (I1)(I3)(I5):

“That’s the tricky part of being a good designer, you can design things that look amazing and awesome because you don’t think of the budget, and that’s not the way to do it, because then your design will be one piece that you will make yourself. The tricky part is thinking about all this manufacturing techniques, costs and materialities… and coming up with a unique design on top of it. So many things have been done before and it’s not easy to be original. You can do something very original but then you cannot produce it for example. Some people make themselves so called artists, but then it’s another profile for yourself, you just work within art.”

(Arpaç, D. Personal interview. 28 June 2017)

Financial success is not a source of motivation for most of the designers interviewed (I1)(I2)(I3)(I5); Derya Arpaç mentioned that a colleague from her studio was much more focused on

designing products that sell a lot, but she specified that usually this can happen later in their career, as young designers are a bit more open minded and unbiased:

"*He is a product designer but he has more that mindset… He is forty and he has two kids… That's the only reason, nothing else. When you are new you don't really care, but then you start worrying about all these things. I prefer to go a bit more crazy with my designs."*

(Arpaç, D. Personal interview. 28 June 2017)

Money doesn't appear as a priority for designers, it's about "ambition, creativity and motivation" (Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017), also because - big names apart - rarely designers get paid a lot by manufacturers (I1)(I2)(I5) nor make lots of money from royalty agreements (I1)(I5). A complete exception emerged when the designer is also the owner of the brand manufacturing the product. In that case money can be a strong driver, and producing a best selling item was actually the main motivation behind the design of the Turn Lamp:

"I don't know when the process started, but I was sitting at home and my colleague called me to order some lamps from another company, and I was wondering "how does that lamp sell so much?"

(Munk, H. P. Personal interview. 7 Aug. 2017)

The different motives that drive designers and manufacturers, influencing the outcome of the design process, are also evident in the way trends in taste are approached. Companies usually try to find a balance between appealing a large market and being edgy (I4), while designers think that following trends is uninspiring (I1)(I4)(I2) and leads to your design being copied by others or to come up with ideas similar to those of other designer's (I1). This can cause designers to "*questioning [their] way of designing"* (Arpaç, D. Personal interview. 28 June 2017). Designers don't want to create just what people want, they would rather influence their taste and "push their borders a little bit" (Seubert, T. Personal interview, 25 July 2017), but this often

clashes with the manufacturer's desire to make the product more commercially appealing (I1) (I3). The final product sometimes ends up being a compromise, for example something avant-garde in terms of materials but more conservative in terms of from, as for the Azul Bahia Tables (I3). Even in the case of the designer wanting to appeal a larger audience, a certain degree of edginess is sought after:

"I actually like to design products that everyone thinks are nice. I'm not so crazy in my taste, which is something that I have to develop sometimes… at least for the things that I want to be more edgy when I want to be, if not first movers, not like all the others".

(*Munk, H. P. Personal interview. 7 Aug. 2017*)

It is not surprising that this tendency to a more mainstream style comes from Hans Peter Munk, who is also the brand owner and manufacturer, biased towards a more commercial approach to design. A different approach to design emerged from the interview with Anders K. Olesen, who explained once again that the challenge that a designer is looking for is not appealing a large audience, but rather the experience that he wants to provide with his work:

"*It is not hard for a designer to create a product that people want, but it's also about how I want them to experience my design* [...] *and I think that the success of a design is derived by two things: the designer and the manufacturer."*

(Kirkebjerg Olesen, A. Personal interview. 7 Aug. 2017)

5. Discussion and conclusion

The analysis investigated the four elements of the constitution of the product in the selected cases, and answered the question *"How do commercial imperatives affect the design of furniture products?"* by describing the significance and the influence of commercial imperatives on each materiality, expression function and form. Nevertheless, as pointed out by DiSalvo (2012), these elements are not independent; a product is a creation composed by the relations among these elements, which allow to describe and criticize it. According to DiSalvo, the object as a whole depends on the relations and interaction between these dimensions, but what the findings suggest is that these elements themselves are highly influenced and dependent on commercial imperatives. Therefore any thorough analysis of a product should take them into account. DiSalvo rejects the idea of the product as an artifact evaluated on objective measurable qualities, yet what emerged from the research is that in the practice of design those qualities are still at the basis of product development, especially when it comes to the commercial aspects of form and material. This is also in contrast with Verbeek and Kockelkoren's (1998) claim that product design is biased towards non-materiality, preventing the creation of timeless objects. In more than one instance designers mentioned that creating a timeless, unique product is one of their objectives and source of inspiration, despite the commercial limitations they might face. Additionally, while it is true that brands and marketing play a fundamental role in the appeal to the public, permeating products with symbolic values, brands attributes are expressed in the product through sensorial and measurable qualities.

DiSalvo's (2012) definition of the product as "as a multi-dimensional effort undergoing constant interpretation and reconstruction" by both the designer and the user (2012, p. 34) fails to capture the importance of the manufacturer as one of the agents of the product, and to recognize his role in shaping the relationship between the object and the people and the environment.

DiSalvo (2012) expressed the difficulty of properly identifying all the material elements of the product due to increasing technological complexity; nevertheless the objects analyzed have a

low intrinsic technological content and, as previously explained, the use of few materials is favored in order to contain production costs. Despite this relative simplicity, the presence of conflicts due to the number of people that engage with the materials speculated by DiSalvo clearly emerged from the cases analyzed as a result of commercial imperatives; for example, contrasts arise when the manufacturer restrains the designer from using materials that are deemed too expensive or not commercial enough. Such a situation suppresses the inspirational power of materials theorized by Lambert (1993) and confirmed by the designers interviewed. Designers seek to use the materials that inspire them and push forward the possibilities of design, but they have to face limitations imposed by costs and by the pressure to conform to market trends. Materials also appeared to be chosen based on their emotional relevancy and their effect on the perception of the product, as suggested by Ashby and Johnson (2002); for example the oak of the T1 table chosen to foster an idea of Scandinavian simplicity or the terrazzo used to make the Confetti Trolley a trendy item. In those cases commercial imperatives play a key role, as manufacturers generally want to produce objects with materials that are perceived as trendy or classic to appeal a large market, while designers want to create something that is perceived as edgy and creative; the final outcome tends to be a compromise between the two. More than “active interpreters of the goals of designers” (Antonelli, 1995, p. 90), materials appear to be an element of the product highly connected to its market appeal and subject to the influence of commercial imperatives.

Materials, together with form, have been claimed to be dependent on the function of the object. DiSalvo (2012) negated the supremacy of function over the other elements, but in some of the instances analyzed - the Confetti Trolley, the Turn Lamp and the Azul Bahia Tables - the function was the starting point of the design process, determining the other aspects to some extent. Function, defined as the work that the product does and what defines it (DiSalvo, 2012), would seem to be an element unlikely to be influenced by commercial imperatives. If a chair is such because its function allows to sit, it is difficult to believe that this basic featured be altered by external factors. But as DiSalvo (2012) himself pointed out, function can be manipulated by the expression of the product. This manipulation of the function is often prompted by commercial

imperatives such as the desire to market a product as multifunctional, or suggest a use that has more mass-appeal; for example the Adam Stool and the Confetti Trolley marketed as a side table.

Expression, “how materiality is rendered by design” (DiSalvo, 2012, p. 40), emerged as the element in which commercial and creative motives intersect; DiSalvo (2012) defined it as a factor of presence of the designer in the product, but it is in fact a factor of presence of all the actors involved in the design process - including the manufacturer - with different and contrasting views on how the product should be. Participatory design, or co-design, has been previously mentioned as one of the practices that brings a multitude of actors into the expression of a product. This approach of actively involving external stakeholders appeared only in one of the cases, when Munk asked for feedback on the design of the Turn Lamp to the buyers of the department store. Nevertheless it serves as a proof of the openness of the design process to the external influence of commercial actors.

As explained in the analysis, the influence of commercial imperatives can take the form of limits self-imposed by designers in order to create a successful product, or constraints posed by the manufacturer on the creativity of the designer. Nevertheless designers claimed to follow their creativity and inspiration when designing a product, and that commercial reasons are never at the base of their design thinking. This tendency of designers to overlook the economic aspects of production and market requirements, leaving the manufacturer to take care of them, clearly emerged from the study, contrary to Hirschman’s (1983) belief that designers are commercial creators that create in order to satisfy the need of a larger market. At the same time, designers cannot be strictly considered self-oriented creators either, as their strong aesthetic and intellectual conviction is mitigated by their awareness of the commercial nature of industrial design. Hirschman (1983) also pointed out that self-oriented creation can lead to products that satisfy only the designer, but the study showed that this usually doesn’t happen, thanks to the intervention of the manufacturer. As already observed by Bloch (1995), designers have an expressive language that is sometimes too avant-garde for the mass-market, causing contrasts with the priorities of the manufacturer and conflicts to arise, as in the case of the Azul Bahia

Tables. In such cases finding a compromise between the two motives led to a product that is commercially successful while respecting the designer's creativity and inspiration. Commercial constraints are perceived by designers as a limitation to their expression, but also a positive challenge that can enhance their creativity. Additionally, the compromises between the expression of the designer and the manufacturer - for example adding features or details to please the market - can lead to improvements to the product as a whole. This is especially true when designers themselves recognize a certain ability of the manufacturer to capture market trends and understand costumers' needs and wants, and accept commercial constraints as a positive stimulus for their activity. On the other side, an excessive pressure from the manufacturer's side to sacrifice creativity in favor of business usually results in the designer's frustration and potential conflicts.

DiSalvo's (2012) approach to form overlooks visual appearance; however for its relevance in the product's desirability to the user, it is the aspect of the product in which commercial factors play the largest role. Norman (2008) explained that design should be appealing at first impact in order to stimulate the purchase, but the findings show that designers make aesthetic choices based on their creativity rather than their potential appeal to the market. Therefore commercial imperatives influence the final aesthetic of the product through the manufacturer, who urges the designer to organize "the relationships between the material, expression and function towards the public" (DiSalvo, 2012, p. 54) in a way that is commercially appealing. Saffer (2006) pointed out that from includes all the aspect of a product character, including the values of the culture to which it belongs. From a commercial standpoint, this occurrence can be observed and confirmed with the fact that the designer's aesthetic choices are influenced, if not dependent, on the manufacturer's brand visual identity, which is the manifestation of the brand culture. It has been explained how the analysis of the brand is the first step of the industrial design process, and how it influences the product in terms of form. Moreover, the pressure to contain costs and appeal a large market influences form through the other elements, due to the unifying role of form in the constitution of the product. All the aspects of function, material and expression that

are influenced by commercial imperatives in the ways outlined, converge in the form and shape the final product.

5.1 Conclusion

The study confirmed that the development of products with a high design content is characterized by tensions between commercial and creative interests. The interplay of these two aspects in product development has been analyzed by uncovering the exact role of commercial imperatives and economic constraints in the designer's activity, determining the final design of products. Using the furniture industry as area of investigation, the product has been "revealed as a multi-dimensional effort" (DiSalvo 2012, p. 34) that depends as a whole on the relations between material, function, expression and function, elements and relations that are influenced by commercial imperatives in the specific and discernible ways outlined in the study.

5.2 Limitations and further research

The study analyzed the impact of commercial imperatives on product design by analyzing five cases within the furniture and accessories industry. Yin (2009) emphasized how a multiple case study is preferred to a single-case one, as the analytic conclusions are more powerful if arising independently from two or more cases. However, choosing the product development of designer furniture as a context may make it difficult to make generalizations applicable to other industries where the distribution of the elements of the product is significantly different, for example when the product is intangible (e.g. a service). The results are likely to be valid for product design in similar industrial contexts, such as fashion, even though such generalizations remain untested and could be object of further research. Moreover the choice of the cases analyzed - despite being carried out to include different type of products - fell within a limited range: all the objects analyzed are mid-range priced and produced by medium-sized companies. When adopting a

commercial standpoint, greater generalizability could have been granted by taking into account a wider range of products, for example cheap mass-market products or luxury ones.

This study doesn't benefit from a triangulation of different methods, which Yin (2009) points out as one the major strengths of case studies. Using a variety of methods and sources of information could have reduced the risk of conclusions that reflect systematic biases or limitations of a specific method, and allowed a better assessment of the validity and generalizability of the results (Maxwell, 2008). For example using observations and shadowing could have been another valid approach to analyze the commercial aspects of the design process, but it would have been impossible to follow the whole design process, from the start to the final outcome, due to the uncertainty in temporal length of the product development and its incongruence with the fixed timeline of the research.

Nevertheless, the study brings valid contributions to the current academic discussion in the field of product design, and offers a potential starting point for further research about the influence of commercial imperatives on each single elements of the product. As thriving in industries that involve a high level of creativity - such as furniture and accessories - entails overcoming specific managerial challenges, this thesis provides insights into the practice of design that are useful for both companies and designers.

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On the cover: Carl Hammoud. *Stumble #2,* 2017. Oil on linen. Gallery Magnus Karlsson, Stockholm.

Appendix

Transcription of the interview with designer Derya Arpaç

Time and place: Copenhagen, 28/07/2017
Length: 1h 01'48"
Interviewer: Federico Fossati (F)
Interviewee: Derya Arpaç (D)

F - So, first of all if you could describe the object we are discussing, the Confetti Trolley and the inspiration behind it

D - Yeah, it started out to be...the assignment was to design, basically, a drinks trolley in modern way, and then the material of the trolley was assigned by the manufacturer and actually she already had some style in her head, which was this Bauhaus kind of piece , so it was at this…and the material she assigned was this...using metal and terrazzo, because she already found the manufacturers for it. She wanted to have a structural, minimal, sculptural piece, it was actually quite to the point but then there were lot of...during the design process...what kind of trolley ti should be because people don't use drink trolleys, it's a bit of a luxury piece and actually it was through my research that I kinda started to think how it should be, a bit more flexible, rather than a drinks trolley, that it should be a side table, table whatever...so the inspiration actually comes through, or the form of it comes through the function that is actually supposed to have rather than...because during the process there were a lot of variations where it was a bigger one, multifunctional one, where you can maybe take out the tray and have several levels on it, so it was more like a bigger piece, but then in the end it came to be this one, a minimal...actually the alternative that I made, the simplest one was the one that she really liked which was like three legged, just basically outlining a table with wheels, three wheels, and that's what she really liked, this minimal form that it had and...then yeah, it was actually really easy to design, how it came up, just through one of the sketches that she liked. And that's how it is.

F - Ok, so who is...she?

D - [Laughing] She is the….manufacturer...well the brand owner, Kirsten Krogh, I approached them basically proposing a design, actually asking for a proposal of a design that they should give me because I would make a free project for them, they could just take it or leave it. If they

would take it then they would have to give me royalties and she was very open to that, because she doesn't lose any money. And she liked it.

F - So you didn't get paid for the whole thing, it was just royalties.

D - No no...but it was because I was just a student as well.

F - You knew you could make any money out of it only if it was successful…

D - Yeah.

F - So when you were designing it you were thinking about how successful it could be, commercially?

D - Not at all

F - You just wanted to do something pretty, something that you liked?

D - Yeah, but it was just because it was my first project and I didn't really think about the outcome of the product, and actually afterwards when it was produced when I was talking about the royalty percentage they just give you a contract...but then my teacher was going through it and he said "this is not a product that will sell a lot so you can ask for more money, or an advance of money, more like a per year you should get this much bla bla" but the reason for that it's because it's a piece that is an extra. When you need to buy furniture you buy a chair...or a bed. Because that's essential. You don't buy a trolley [laughing], after you have everything, then you… because a friend of mine was talking about it…"oh, it's for people who have a lot of bottles and a big house". But still it's not so bad, and the thing is that it is getting so much media attention. Because it's a...because it's beautiful, it's eye catching and has a unique from.

F - Could you design the main steps in the design process?

D - Mmm...First it starts out with basically sketches, and then there's physical models, 1:5, 1:10 and so on...and then it goes to 3D modeling in the computer where you try out materials and maybe test the form in detail...because physical models are to get the main proportions and then for our first meeting with Kirsten I had renderings of just different formulations of the form, different sizes and so on, and then she picks something that she likes and decides the technicalities, like how do the wheels work, what are the connections, or the details you have to

work them out as well. And then when you hand in all of that they start making it, prototypes. I think they made 3 form prototypes...it's always around that, because then you see in exact size, oh sorry, before that, I actually made my own prototypes to show for my exam. Normally you don't need to do that for manufacturers but it was for my own sake. Which a mid a bit of a different version. It was cut metal rather than bent metal, and…

F - Cause it is cheaper?

D - No it's actually the opposite, when you bend it is cheaper. Because when you cut it you add extra men labor and...it is not the natural way to do it. I just wanted to have this sharp edges of the form. It was a form thing that I...it was not the right thing to do. And I was told in my exam, as well [laughing]. So when Kirsten was actually making it, she was doing it in the good way.

F - But how was it wrong?

D - Because you need to use the identity of the material. You don't really cut metal. The right way to do it is bend it. Because it's easier for the manufacturer, and faster, and more efficient, and cheaper...yeah definitely cheaper. But of course it's a design choice as well.

F - So when you were doing your own prototyping, you were not considering how it would be produced, just to make something that you like in the shape and…

D - And the manufacturer actually tells you how to do stuff, because they know better...in most cases. Or actually it depends on your experience as well. So if you have been a designer for 15 years who worked with all different types of materials you already know...Actually in my critique my teachers were saying "you actually had to use the bent technique rather than this" and I was like "no no no I like it this way" [laughing]. And yeah...but again, it's the first time that you are doing stuff, you are so passionate about your ideas.

F - Were you ever considering the economic aspects of the production while designing?

D - Ehm...no, but the reason for that is because I was already assigned with these materials that is already not super expensive. I mean actually I was using...I was not thinking at all this cost thing and...because I had a different way of putting the terrazzo top on the structure...I designed the detail where you cut the piece of terrazzo to make this, how do you call it, inlay? I would make a cut at the bottom of the terrazzo so that it locks on the structure, but they were

like “no no no you can’t cut terrazzo is so expensive”. And the metal it was the same...the production starts to give you this...makes you start thinking about the costs.

F - So, talking about receiving some kind of external pressure to change the design to make it cheaper to produce...you would say that you already all the inputs from the start, so you had a limited choice.

D - Yeah it was a very limited choice...but you always think about how it is being made. I mean if you are going to make a product that is supposed to be industrially produced...that’s the first rule. You need to know...I mean it’s not an artistic project, that’s a different story.

F - So when you started you knew the costs of the material or the production costs at all?

D - No I didn’t, no no. I learnt it all afterwards. But it was because I was working for a brand that was small and like a friend, so were teaching me a lot and helping me out as well. But it depends on which kind of brand you work with. It’s all about that. Some brands are so big that they don’t care...they are just “go crazy, we don’t have any budget” [laughing]. And I was working with that kind of projects when I was working with Note Design Studio. There is this lighting company called Vibia, they are spanish and they make perfect, industrially made lighting and very...when we were designing it they even said in the brief “you don’t need to think about the costs, we solve those problems, just create something beautiful”. Because they have billions of solutions, because they have been working with these products for so long. That’s the goal, be able to work with this kind of brands. Because you get limited with the smaller companies you know.

F - Do you think if you have a budget to respect, of course it is a constraint to you but also maybe it pushes you to find a more creative way to approach a problem?

D - Because it should be cost-effective?

F - Yeah.

D - That’s another thing I don’t necessarily think that if you have to create a cost-efficient product you have to come up with something shitty. It’s the opposite. I mean the trolley doesn’t cost much to produce...it’s more about your imagination really. So yes it definitely pushes you...cause then you have to work through, then maybe it’s not about the materiality but rather

the technique and the form. So then you actually start to...make it work hard, your brain [laughs].

F - Does the amount that you are paid influence you? Also in terms of motivation.

D - No I think it's more about your ambition...it's all about your motivation, and to be honest actually, you get paid very little to design, either you are quite famous and the brand is actually not that good, then they want your support on it, but big brands never pay much, like Alessi, sometimes they don't even give royalties. I was talking to this American guy working for, do you know OTHER, they are 3D printing this objects in ceramic, metal, bronze… and he told me they are so famous that they think that it is a privilege for a designer to work for them, for Alessi.

F - Did you have any idea of what could be the final price of the confetti Trolley?

D - People were asking me and I was like...I have no clue [laughs]. But it used to be cheaper, when I designed it, now after all of this...media attention that it got, the increased the price, like 100 euros more.

F - it's kind of a lot [laughs].

D - Yeah, it is! [laughs] and I was thinking "Is it a good thing or a bad thing?" maybe not for me but for them. Because the royalties I get are from the manufacturing price, not the retail price. So when they raise it, that doesn't effect my royalties. That's very sad [laughs]. But I still have good feelings about the Trolley, i think it's a piece that will gain attention in time.

F - But now of course you know the retail price. But what about the prices of materials and production, do you still know how much does it cost to produce? Or after being done with designing you don't care anymore?

D - Yeah, well actually the fun part about being a designer is that you don't have to think about that, because that's manufacturer's problem. So you just design. But then of course you get a bit of an idea. It really depends...the people I worked with last year at Note, Kristoffer the Head of Product Design...he started to think so much about how much is going to sell, the product, that the design became so much involved in that. He wanted us to work with the simplest forms, like not too expressive, because those are the things that sells most because...you are not selling things for designers only, or intellectuals or artists or whatever….my aunt needs to buy an ashtray as well, and she won't go for the cool stuff [laughs]. That what was the main thing

sometimes, it was too simple sometimes, almost not design, and most designers wouldn't like it, because Note has most of the time this expressive design language, and that product wasn't a "Note product". But it was going to sell...according to him. But that's the choice of what products are going to represent you.

F - So you said he is also a designer right?

D - Yeah he is a product designer but he has more that mindset...he is forty and he has two kids...that's the only reason [laughs], nothing else. That's why when you start and you are new you don't really care but then you start worrying about all these things. I prefer to go a bit more crazy.

F - In the case of the trolley, did you get this kind of pressure from the company?

D - No, because it was already a producer that makes cost efficient products, it was just metal. The expensive thing was the terrazzo piece. Ok one product that I started working on, the willow bench that now cost around 5000 kr, so quite expensive, it's because it's made from different manufacturers because it's 3 different materials, there's wood, there's willow and then metal. It just adds up cause the more manufacturers you have, they have to send the pieces from different places and so on...actually they tried to keep the costs as low as possible but sometime when it comes to...when it has to it has to, you know? The trolley it was always, no details, that size or that size, and they always tried to find the right wheels for it and...what was the question? It is so hard to answer because it has so many different layers and different products...but i could say that successful brands, it's kind of clear what profile they have. They make cheap production, simple, minimal, or they are just glorious and all that...and they are expensive.

F - So when you are approached by a company, you already know from the brand the kind of budget they have and what they want you to do…

D - That's number one rule when you work with a company, first thing: company profile analysis. You have to fit to their profile in order to match with their brand. And then it's what kind of materials they use, what do they produce, who's the user...like, who's going to buy this? So all this things...you're halfway through to design, what is going to be. It's all this kind of analysis or things that...It's the brief. And some companies they tell you "we sell this much, to this user, to this market". Mine didn't give me this, because...I don't know, I was too young [laughs]. I think

they wanted to keep it more like “do what you want, what you imagine, just keep in mind these materials”.

F - Do you think you would have designed the trolley in a different way if you didn't have to think about the costs?

D - No, I think the trolley actually turned out the best it can be [laughs]. No it really did...it took one year to be in the market, so it’s a long product development, which is their responsibility. Yours is the design development. They are responsible for making it work the best and cost efficient.

F - If you didn't’ have any input about costs, would you have looked into it yourself while designing?

D - No, that’s not my job. It’s all on them. Because it’s their business, right? They tell you this is how much it costs so this is the kind of thing we want” because they know how much it costs, from the beginning, kinda...this product is going to cost bla bla But now that I think about trolley turned out to be quite good, but further products that we were working on together it was always always always Jacob, who is the partner who is running the finance part of it, he was like “ok this is too much this is too expensive…” and he was never open to new materials or new ideas. It was always simple things, the cheapest way. So then it kinda get a bit boring after several products you have to work that way and...trolley was ok because it was the first one but the last one, the one you saw, it costs so cheap, because it is one material, coated metal, one workshop, one guy, cutting, bending and spraying...and then it’s like, I don’t even know how much it is to manufacture it...I should know, I should ask them. But...

F - Do you know how much they sell it for?

D - Yeah, like 2000 kr. I mean it’s like how much in euros? 150?

F - No much more, it’s around 270 euros.

D - Really? And that’s another thing: the bigger the more expensive for them, so whatever you design, try to make it bigger is size, cause when people buy they wanna have something big so they are satisfied with their purchase. That’s why the last two products they made them bigger than I proposed…

F - Like a trolley turned into a shopping cart?

D - [Laughing] But trolley had to be a bit petite… to talk about costs I think now I am going to combine another project. The last one, I wanted to make a heavy base, which is, it is called Gestus Valet, and it is like a hanger, three pillars and a metal tray. And wanted it to have a solid heavy base, like a rock or terrazzo piece that added weight to the structure, so it's like this thin, light thing with a heavy base which makes more sense but they didn't wanna do it because they said that it's heavy to transport, which adds to the costs. While when they saw this they said "ok this is perfect because it's super cheap to produce, we will do it". So this is another thing to get your stuff to be produced. Some people from my school don't have that much production because they have actually...create too complicated pieces because they never really worked with manufacturers, they don't know. It was quite nice to experience that with Christian, where you actually know what they are going to ask for, or why thing are being produced. So this cost thing for some brands it's a thing to get your stuff produced.

F - Do you think in general designers should be more aware of these topics?

D - Yes, definitely. But that again comes with experience as well. They don't teach that at school. Or at least at my school [laughs]. That's the tricky part of being a good designer, you can design things that look amazing and awesome because you don't think of the budget...and that's not the way to do it because then your stuff will be one piece that you will make yourself and the tricky part is that again thinking about all this manufacturing techniques and costs and materialities...coming up with a unique design on top of it, because so much things have been done and...the more original you wanna be, yeah...that's the tricky part. You can do something super original but it's because you cannot produce it for example. Some people make themselves "artists" so called [laughs] then it's another profile for yourself...you just work within art…

F - And you starve for the rest of your life?

D - Exactly! [laughs] I have to say that happens quite often.

F - So you'd say it's better to have some guidelines throughout the design process instead of being totally free and then after you create something they tell you "no it's too expensive".

D - Yeah, yeah...but then again it depends on the company: they either tell you "go crazy and we will figure it out" or "think about all these things", and that is actually defining your design.

[Looking at a concrete vase in the room] I have a concrete box going into production these days, the one you saw on my Instagram, and it will probably be done also in ceramic. Another thing: sometimes just working with the form gives you the advantage that you can change the material over the time. But that's also a thing that puts me off, all these trends that I don't want to...because my stuff is quite trendy and I don't want it to be, because when I started using terrazzo...now it's everywhere! It's like...it was her who gave me this material, and she knew it was going to be a hip thing...this manufacturers are good with capturing what's going to be popular so they assign you these material. And concrete wasn't that popular when I started using it...now it is. I am a trendsetter [laughs].

F - As a designer you are, kinda, more than the final user. It is the thing you were saying about your aunt not buying the designer ashtray…

D - But the thing is that with the trends, the reason that is good to use trends, is that your stuff is going to be picked up by bloggers, stylists...probably the reason that the Trolley is in the BangandOlufsen advertisement is that the trolley came up when this stylist guy was searching for some terrazzo thing...so it's a bit of a win win. There is no right or wrong…

F - So you would say that the choice of material is something that is easy and cheap to produce and what's trendy…

D - Yeah...

F - But where are you in this, as a designer?

D - I am torn. That's why I'm on a break with Kirsten [laughs] and I feel so uninspired because of all of this Pinterest and like...cause then so much stuff that is similar to yours starts popping up as well, and that's the thing that puts me off the most. A guy just created a ceramic that has the same shape of the lid of my box...and it has the same function but that's why...I am kind sick of these...working with certain materials is not a problem but when you make trendy stuff then people come up with similar ideas because it's trendy as well or...Norman, Hay, Menu...they are all copying each other, which is so annoying! It's uninspiring...and that's why I am questioning my way of designing, after these products. Except my trolley, because you can change the material of the top, but the from will always stay.

F - Do you know how good is doing the trolley commercially? Did you expect that? Would you change the design based on that?

D - It’s doing very good in terms of media attention because I think it looks cool, it does [laugh]! I don’t say this of all my products. And I think it is unique because there haven't been designed so many design drink trolleys so actually it was a situation where you could create something unique. And after a while this terrazzo things became...it was in this trends article thing…”new trend: terrazzo” and it was included there. I think 100 pieces are sold per year, which sounds good but it’s not that much...but not it is getting more media attention so it will sell more.

F - So you wouldn't change it?

D - I would only change the terrazzo thing, because of this, because people would start thinking “oh terrazzo again”. This consumerism, also on Pinterest and stuff...you see so much stuff that you're bored after... you scroll through so much stuff just for a second in front of your eyes. That’s why I hate Pinterest, it has become too consumeristic.

F - I think that’s it for the interview, thank you very much!

D - I hope it was helpful.