

Brand Formative Design
Development and Assessment of Product Design from a Future,
Brand and Consumer Perspective

Dissertation

zur Erlangung des Grades eines Doktors der
wirtschaftlichen Staatswissenschaften
(Dr. rer. pol.)
des Fachbereichs Rechts- und Wirtschaftswissenschaften

der Johannes Gutenberg-Universität Mainz
vorgelegt von

Diplom Designer (FH) Jan Of, MBA
in Mainz
im Jahre 2014

Erstgutachter: ...

Zweitgutachter: ...

Tag der mündlichen Prüfung: 28. Mai 2014

ACKNOWLEDGEMENTS

Already thousands of years ago, the sense of beauty motivated humans to design also everyday objects according to aesthetic aspects. During the last century, design evolved from a craftsmanship to a discipline, which is taught at universities. Concerning the success of products, the factor design might play an even more significant role in the future.

Since my childhood I loved cars and to draw; the desire to make this passion into a career and to become an automotive designer was the consequence. While studying and working in the automotive industry, the question arose: What does it mean to make people happy by the use of design and to excite them for a specific product by this means? This work discusses design-relevant success factors, as well as their application and influences on the consumer.

Concerning this work I want to express my gratitude to my doctoral thesis supervisor. With his supportive, open minded and creative nature, combined with the ability to ask the right questions and to give the right input in the right moment, he accompanied me perfectly while the making of this research work.

I also would like to thank the second referee for his effort in reviewing this work.

Furthermore I want to thank one of the best designers I know. As my former lecturer, he is today a most competent, critical and amicable colleague and discussion partner.

I want to thank my mother, who was not permitted to see that I have redeemed my promise, as well as my father from all my heart. They demanded, encouraged and allowed me great latitude with all I was doing.

Also my wife deserves special thanks. With help and advice, patience and sophistication she stands at my side in all circumstances. To her I dedicate this work.

TABLE OF CONTENTS

1	ABSTRACT/ ZUSAMMENFASSUNG	1
2	INTRODUCTION.....	3
2.1	PROBLEM IDENTIFICATION AND CHALLENGES.....	3
2.2	OBJECTIVES OF THIS DISSERTATION RESEARCH.....	9
3	LITERATURE	10
3.1	PAPERS ON DESIGN AND MARKETING	11
3.2	RESEARCH GAPS	30
4	APPROACH BRAND FORMATIVE DESIGN	31
4.1	DEFINITIONS OF MARKETING AND DESIGN	31
4.2	PROPOSITIONS TO APPROACH BRAND FORMATIVE DESIGN	36
4.3	CONCLUSION AND DEFINITION OF BRAND FORMATIVE DESIGN	75
5	BRAND FORMATIVE DESIGN.....	77
5.1	PRODUCTS AS OBJECTS IN THE CONTEXT OF SUBJECTS	77
5.1.1	THE ROLE OF SUBJECT, CONTEXT AND OBJECT	78
5.2	BRAND FORMATIVE DESIGN DRIVERS	85
5.2.1	INTEGRATION OF CONSUMERS	85
5.2.2	ATTENTION AND SCHEMES.....	87
5.2.3	AESTHETICS	94
5.2.4	PERSONALITY.....	97
5.2.5	DESIGN LANGUAGE, MEANING AND BRAND	99

5.3	BRAND FORMATIVE DESIGN STRUCTURE.....	111
5.4	BRAND FORMATIVE DESIGN ITEMS AND STIMULI.....	122
5.4.1	BFD ITEMS REFERRING TO DDL1 "GESTALT"	125
5.4.2	BFD ITEMS REFERRING TO DDL2 "SURFACE"	137
5.4.3	BFD ITEMS REFERRING TO DDL3 "GRAPHICS"	150
5.5	BFD ADVERTISING POSTER	156
5.6	BFD: CONCLUSION AND EVALUATION	163
5.6.1	CONCLUSION AND EVALUATION OF BFD STRUCTURE, BFD STIMULI AND BFD ADVERTISING POSTERS REFERRING TO BFD DRIVERS	163
5.6.2	CONCLUSION: BFD RELATIONSHIPS.....	178
6	RESEARCH DESIGN	179
6.1	RESEARCH PROCEDURE	180
6.1.1	SELECTION OF PRODUCT CATEGORIES AND BRANDS	180
6.2	DEVELOPMENT OF BFD STIMULI AND BFD ADVERTISING POSTER	184
6.2.1	DEVELOPMENT OF BFD STIMULI: STIHL CHAIN SAWS	184
6.2.2	DEVELOPMENT OF BFD STIMULI: SCHAUMA SHAMPOO BOTTLES.....	200
6.2.3	DEVELOPMENT OF BFD STIMULI: WMF SAUCEPANS	213
6.2.4	SIMULATED CO-DESIGN PROCESS AND ADDITIONAL QUESTIONS	225
7	RESEARCH AND ANALYSIS	234
7.1	DATA COLLECTION	234
7.2	DESCRIPTIVE ANALYSIS	234
7.2.1	DESCRIPTIVE ANALYSIS OF CO-DESIGNED PRODUCT DESIGNS.....	235
7.2.2	DESCRIPTIVE ANALYSIS OF DISTINCTIVE DESIGN LEVEL 1 GESTALT	238
7.2.3	DESCRIPTIVE ANALYSIS OF DISTINCTIVE DESIGN LEVEL 2 SURFACE	248
7.2.4	DESCRIPTIVE ANALYSIS OF DDL3 MSDGE	254
7.2.5	SCHEME CONGRUENCE IN GENERAL	256
7.2.6	PREFERENCE OF INDIVIDUAL DESIGN.....	258
7.2.7	FURTHER OBSERVATIONS	260

7.3	GENERAL CONCLUSION, IMPLICATIONS FOR MANAGERS AND FURTHER RESEARCH.....	261
7.3.1	GENERAL CONCLUSION.....	261
7.3.2	IMPLICATIONS FOR MANAGERS	264
7.3.3	FURTHER RESEARCH	266
8	APPENDIX.....	267
8.1	BFD STIMULI: STIHL CHAIN SAWS.....	268
8.2	BFD STIMULI: SCHAUMA SHAMPOO BOTTLES.....	292
8.3	BFD STIMULI: WMF SAUCEPANS.....	308
8.4	QUESTIONNAIRE	324
8.5	RESEARCH RESULTS.....	325
9	REFERENCES	379
9.1	KEYNOTE SPEECH	394

INDEX OF IMAGES

Image 1 Pyramid of perceptual levels.....	78
Image 2 Interrelationships between object, subject, and context.....	84
Image 3 Concept of horizontal and vertical iconography.....	104
Image 4 New (left) and original package design (right) of the chocolate brand Cailler.....	107
Image 5 Distinctive Design Levels with the example of a Maggi bottle.....	117
Image 6 BFD Co-Design Process as base of BFD Structure.....	121
Image 7 golden ratio.....	128
Image 8 Golden Ellipse of Patek Philipp and ipod, designed according to the golden ratio.....	128
Image 9 Products according to the golden ratio.....	130
Image 10 "BFD Item1 Aesthetic Proportions" referring to axis symmetry and golden ratio.....	130
Image 11 Prototypical car and bottle as example for product proportions.....	132
Image 12 Examples of products implying brand specific proportions.....	134
Image 13 Definition of the terms plane versus surface.....	138
Image 14 Degree of curvature: Curved planes versus flat planes.....	140
Image 15 Line of intersection where two planes meet.....	142
Image 16 Sharp edge versus round edge.....	143
Image 17 Examples of products curved planes with sharp and rounded edges.....	146
Image 18 Examples of products with curved planes and round edges.....	147
Image 19 Examples of products combining flat planes with sharp edges.....	148
Image 20 Examples of products combining flat planes with round and sharp edges.....	149
Image 21 Colour combination as MSDGE in the case of tractors.....	153
Image 22 Car fronts/ grills as MSDGE.....	154
Image 23 Colour combination or face with logo as Most Significant Distinctive Graphical Element.....	155
Image 24 Purposefully designed advertising poster.....	163
Image 25 Relationships and references between BFD Drivers, Structure, Stimuli and Advertising Poster.....	165

Image 26 Product Category specific Proportions of Chain Saws.....	185
Image 27 Brand specific Proportions of STIHL Chain Saws	186
Image 28 STIHL Chain Saw Stimulus 1 referring to DDL1_BFD_S1 and inhering BFD Item 1-3.....	187
Image 29 STIHL Chain Saw BFD Stimulus 2 referring to DDL1_BFD_S2 and inhering BFD Item 1 and 2	188
Image 30 STIHL Chain Saw BFD Stimulus 3 referring to DDL1_BFD_S3 and inhering BFD Item 1 and 3	189
Image 31 STIHL Chain Saw BFD Stimulus 4 referring to DDL1_BFD_S4 and inhering BFD Item 2 and 3	189
Image 32 STIHL Chain Saw Example of DDL2 BFD Stimulus 1.....	191
Image 33 STIHL Colour Combination Scheme and Logo Position	193
Image 34 Example of STIHL Chain Saw DDL3 BFD Stimulus 1.....	194
Image 35 Example of STIHL Chain Saw DDL3 BFD Stimulus 2	195
Image 36 Stihl MS 291 Pictorial BFD Icon 1: Product	197
Image 37 Stihl chain saw BFD advertising poster	199
Image 38 SCHAUMA Shampoo Bottle: Axis symmetry, golden ratio and product front/ main view	200
Image 39 Product category specific proportions of shampoo bottles	201
Image 40 Brand specific proportions of SCHAUMA shampoo bottles	202
Image 41 SCHAUMA Shampoo bottle BFD Stimulus 1 referring to DDL1_BFD_S1	203
Image 42 SCHAUMA Shampoo Bottle BFD Stimulus 2 referring to DDL1_BFD_S2	204
Image 43 SCHAUMA Shampoo Bottle BFD Stimulus 3 referring to DDL1_BFD_S3.....	205
Image 44 SCHAUMA Shampoo Bottle BFD Stimulus 4 referring to DDL1_BFD_S4	206
Image 45 Example of DDL2 SCHAUMA BFD Stimulus 2.....	207
Image 46 MSDGE and logos on SCHAUMA Shampoo Bottles	208
Image 47 Examples of SCHAUMA BFD Stimuli referring DDL3_BFD_S1 and S2	209
Image 48 schaum glatt & glossy pictorial bfd icon 1: product	211
Image 49 schaum shampoo bottle bfd advertising poster.....	212
Image 50 Saucepan: Axis symmetry, golden ratio and product front/ main view	213
Image 51 Product category specific proportions of saucepans	214

Image 52 Brand specific Proportions of WMF Saucepans	215
Image 53 WMF Saucepan BFD Stimulus 1 referring to DDL1_BFD_S1.....	216
Image 54 WMF Saucepan BFD Stimulus 2 referring to DDL1_BFD_S2.....	217
Image 55 WMF Saucepan BFD Stimulus 3 referring to DDL1_BFD_S3.....	217
Image 56 WMF Saucepan BFD Stimulus 4 referring to DDL1_BFD_S4	218
Image 57 Example of WMF Saucepan DDL2 BFD Stimulus 2	219
Image 58 MSDGE in the case of WMF Saucepans	220
Image 59 Example of WMF Saucepan DDL3_BFD_S1 and S2	221
Image 60 Pictorial BFD Icon 1: Product : Adapted WMF function 4 Saucepan	223
Image 61 wmf saucepan bfd advertising poster	224
Image 62 Simulation of BFD Co-Design Process and ensuing Questions.	225
Image 63 First slide of BFD Research Presentation	226
Image 64 Second slide of BFD Research Presentation showing BFD Advertising Poster	226
Image 65 Selection possibility DDL1.....	227
Image 66 Consumers can select between personal and “professional” design	229
Image 67 Consumer’s final choice of his preferred WMF Saucepan.....	230

INDEX OF TABLES

Table 1 Overview of Design and Marketing relevant Literature	13
Table 2 propositions	73
Table 3 BFD Drivers	111
Table 4 Characteristics of BFD Stimuli regarding Gestalt.....	137
Table 5 BFD Stimuli in Distinctive Design Level 2	150
Table 6 BFD Stimuli in Distinctive Design Level 3.....	155
Table 7 BFD Pictorial Icons referring to Contexts	162
Table 8 Reference of DDL and BFD Co-Design Process to BFD Drivers	169
Table 9 Reference of DDL1 BFD Stimuli to BFD Drivers	171
Table 10 Reference of BFD Items and BFD Stimuli to BFD Drivers	175
Table 11 Graphics scheme of BFD Stimuli in Distinctive Design Level 3.....	193
Table 12 Graphics scheme of BFD Stimuli in Distinctive Design Level 3	209
Table 13 Graphics Scheme of BFD Stimuli in DDL 3.....	221
Table 14 Labelling of Stimuli according to DDL and design research analysis.....	231
Table 15 Decoding design configuration with the example Version C_2_Y_P.....	232

INDEX OF CHARTS

Chart 1: Frequencies of by consumers configured design	237
Chart 2: Frequencies of by consumers configured design versus product/ brand	237
Chart 3: Preferences concerning Gestalt	240
Chart 4: Preferences concerning Gestalt across all Products/ Brands	240
Chart 5: Preferences concerning Gestalt and Gender across all Products/ Brands	242
Chart 6: Gestalt Scheme Congruence versus Product/ Brand	245
Chart 7: General Preferences concerning Surface Characteristic	249
Chart 8: Preferences concerning Surface Characteristic according to Product/ Brand	250
Chart 9: Preferences concerning MSDGE respective scheme congruence according to Product/ Brand...	254
Chart 10: Degree of Scheme Deviation concerning Product/ Brand	257
Chart 11: Degree of Scheme Deviation overallAppendix Chart 34: MSDGE Scheme Congruence in total	378

1 ABSTRACT/ ZUSAMMENFASSUNG

With this dissertation research we investigate intersections between design and marketing and in this respect, which factors do contribute that a product design becomes brand formative. We have developed a Brand Formative Design (BFD) framework, which investigates individual design features in a holistic, comparable, brand relevant, and consumer specific context. We discuss **what** kinds of characteristics contribute to BFD but also illuminate **how** they should be applied and examine:

- A holistic framework leading to Brand Formative Design.
- Identification and assessment of BFD Drivers.
- The dissection of products into three Distinctive Design Levels.
- The detection of surprising design preferences.
- The appropriate degree of scheme deviation with evolutionary design.
- Simulated BFD development processes with three different products and the integration of consumers.
- Future oriented objectification, comparability and assessment of design.
- Recommendations for the management of design in a brand specific context.

Design is a product feature, which contributes significantly to the success of products. However, the development of new design contains challenges. Design can hardly be objectified; many people have an opinion concerning the attractiveness of new products but cannot formulate their future preferences. Product design is widely developed based on intuition, which can be difficult for the management of design.

Here the concept of Brand Formative Design can provide a framework which contributes to structure, objectify, develop and assess new evolutionary design in brand and future relevant contexts, but also integrates consumers and their preferences without restricting creativity too much.

*In dieser Dissertation untersuchen wir Schnittstellen zwischen Design und Marketing, und in diesem Zusammenhang, welche Faktoren zu markenprägendem Design beitragen. Wir haben eine Struktur für markenprägendes Design (Brand Formative Design (BFD)) entwickelt, anhand der wir individuelle Designcharakteristika in einem ganzheitlichen, vergleichbaren, marken- und konsumentenspezifischen Kontext beleuchten. Wir diskutieren **welche** Charakteristika zu BFD beitragen, aber auch **wie** diese angewandt werden sollten und untersuchen:*

- *Eine ganzheitliche Struktur, die zu markenprägendem Design (BFD) führt.*
- *Identifikation und Bewertung von BFD Drivern.*
- *Die Unterteilung von Produkten in drei charakteristische Designebenen (DDL).*
- *Die Entdeckung überraschender Designpräferenzen.*
- *Den angemessenen Grad der Schemaabweichung bei evolutionärem Design.*
- *Simulierte BFD Entwicklungsprozesse mit drei verschiedenen Produkten und die Integration von Konsumenten.*
- *Zukunftsorientierte Objektivierung, Vergleichbarkeit und Bewertung von Design.*
- *Empfehlungen für das Management von Design im Markenkontext.*

Design ist ein Produktmerkmal, welches wesentlich zum Erfolg von Produkten beiträgt, jedoch birgt die Entwicklung von neuem Design Herausforderungen. Design kann kaum objektiviert werden, viele Menschen haben eine Meinung zur Attraktivität neuer Produkte aber können ihre zukünftige Präferenzen nicht formulieren. Produktdesign wird oft basierend auf Intuition entwickelt, was für das Management von Design schwierig sein kann.

Hier kann das Konzept des Brand Formative Designs ein Rahmenwerk zur Verfügung stellen, welches dazu beiträgt neues, evolutionäres Design in einem marken- und zukunftsspezifischen Kontext zu strukturieren, objektivieren, entwickeln und bewerten, aber gleichsam Konsumenten und ihre Präferenzen zu integrieren ohne Kreativität zu sehr einzuschränken.

2 INTRODUCTION

2.1 PROBLEM IDENTIFICATION AND CHALLENGES

Often, technical characteristics and quality features of products are becoming increasingly alike and are perceived by consumers being “for granted”. It can be argued that the traditional sequence of the product life cycle (PLC) of innovation, quality and price competition inherent in traditional product life cycles is seemingly incomplete. This sequence could be complemented by stages such as heritage, luxury, humour and design.

Thus, we argue that design could be an important differentiator of services and products. Design is therefore becoming more and more important, both for consumer and capital goods.

Design can be a tool to create uniqueness, to communicate values, to entertain, to simplify selections and to create consumer satisfaction. But it can also revive desires for products in the mature stage of the product life cycle (Kotler and Rath 1984). Furthermore the significance of appealing design is not only limited to consumer goods, in fact many examples illustrate how attractive capital goods can intrigue industrial buyers (Bloch 2011). Rationality and emotion are related qualities, thus industrial buyers act both, rationally and emotionally when they assess purchase options they considered (Wolter et al. 1989).

This is shown in rather objective and technically oriented product tests, as reported in many popular magazines or Internet platforms, where goods like cars achieve more or less similar results. Therefore the purchase decision cannot be derived solely from tests in which products perform better, but additionally from the appearance and the product design. As a sales relevant feature the factor design is given an important role. Within various industries design can have a different status. It turns that companies of different branches increasingly invest in the factor design. When the author visited the fair for agricultural equipment, Agritechnica in 2009 and the fair for construction

equipment BAUMA in 2010 he could notice, that there was hardly any B2B company where product design did not play a role. The standard of product design in industries, which ignored the factor design so far, is rising from year to year and also these branches cannot afford to disclaim the use of attractive product design.

In this respect the term “design integration” could be defined as the amount to which the factor design is involved in a product’s sales success and to which extent design is integrated in the product development process. For products such as cutlery or jewellery, the design related development costs have a large share of the total development costs. But in this case the factor design is much more involved in the purchase decision, compared to capital goods, like knitting machines.

Is by a ubiquitous use of design as a strategic management tool the differentiation potential due to design diminishing? Even if an increasing amount of managers make use of the factor design, there will always be potential for innovations that support individual companies to differentiate themselves from their competitors and to be one step ahead. Together with successful marketing management, design can create innovations and diverse unique selling propositions and thus contribute significantly to generate copy-protected competitive advantage (Brown 2008).

To be successful in the current dynamic and global economy, we need to go strategies that surprise and inspire humans (Esslinger 2009). There are manifold examples, like the beverage brand Red Bull that created extraordinary success in a market that was supposed to be saturated. Another outstanding example in the area of product design is the Swiss watch manufacturer Swatch. Both companies were successful due to the use of creativity and deviation from the usual.

Already in 1939 respectively in 1951 it was stated, that not a product’s price is crucial, but also the trust in quality and not imitable product features. The goal should be to achieve a “monopoly position” in the consumer’s psyche (Domizlaff 2005). If we transfer this statement on product design, a goal could be to develop design characteristics or forms, that evoke on the one hand strong desires by consumers and

are on the other hand difficult to imitate by competitors, e.g. due to intellectual property or specific know-how.

Many U.S. managers are somewhat ignorant and uninformed concerning design. Some managers focus too much on numbers, risk-minimization and analytical planning; they devote themselves to short-term returns instead of long-term innovativeness. Even though potential rewards of good design can be tremendously, a lack of good design in many U.S. American product categories was discussed already about 30 years ago (Kotler and Rath 1984). Today there are examples confirming their views: Important industries like the American car manufacturers got into severe trouble, also due to bad design.

In discussions about design the author of this dissertation research noticed that, however, managers are aware of design as a significant factor for a company's success: Increase brand value, financial success, the rise of market share and the improvement of the companies' public image are in their opinion important functions of design.

Today a vision of a new creative economy is described, in which an individual orientation to consumers and niche markets undermines the demand for mass products. Companies search new possibilities to build up relationships with consumers on emotional levels. In particular the web 2.0 and new individual, manufacturing processes like mass customization, the production of completely unique, by customers co-designed products and the integration of the consumer in design decisions could influence future product design (Esslinger 2009).

Design is increasingly understood as an element of strategic marketing and is considerably influenced by the brand and its values. The German Design Council commissioned a study and asked about 100 leading German companies with strong brands and found out, that 69,1 % of the interviewed companies think that design has got a significant influence on the company's total return. Also 81,8% of the interviewed companies said, that design is important for the exploration of new markets, 95% find, that design is very important, when new products are introduced on the market, 95,1% of the companies regard design as an important factor for a

company's brand value and for 86,4% design is an essential factor concerning the sales of the product. 97,6% of the interviewed companies use the factor design to position themselves towards their competitors (Rat für Formgebung 2010).

Increasingly also Chinese companies like Haier Group Co. apply design as a competitive strategy and refer in this respect to companies like SAMSUNG that transformed from a second-tier me-too brand to an internationally valuable brand, receiving more design awards than Sony or Apple (Rocks 2005).

Although managers are aware of the significance of design and brands, there are many uncertainties in the design decision process.

Generally, the intersection between design and marketing contains many challenges: Design and brand can hardly be evaluated independently from each other. There are many possibilities how inappropriately designed products can damage a brand or a company. Poorly designed products can lead to bad sales numbers and high losses. In particular in industries with high development costs flops can generate significant negative financial consequences. It is important to mention, that even an excellently executed design can become a flop when the product design does not fit the brand value. On the other hand the brand itself does also influence the sales success of a product significantly. If it is a weak brand, even a very good design has difficulties to compete with a possibly weaker design sold by a strong brand.

Examples show, that if identical products are sold under different brand names, products with strong brands can be sold at much higher prices and units.

The 2001 Volkswagen Sharan is more or less identical with the Ford Galaxy and Seat Alhambra. All cars look rather the same. That is, except of different badges and little changes in the grill and back area they are more or less identical and were manufactured in the same factory. Although the VW was about 2500 Euros more expensive, VW sold with the Sharan about 5000 units more, compared to the Ford Galaxy (Esch 2004).

This illustrates that in product development, especially in the area of conflicts between design and marketing, multifaceted challenges have to be considered and various parameters influence the market success of products. Management decisions, in particular design relevant decisions are often made intuitively. Thus the desire for opportunities, to objectify design has been expressed in many cases.

However there are currently, apart from some approaches, no relevant, reliable methods to evaluate and create design in a marketing specific context. Experts and managers agree, that design influences a company's turnover in a positive way, but the effective dimensions of this influence are not established yet. Wolf Schneider of Scholz & Friends says, that conventional advertising can be measured, but not design (Bialek 2010, WWW).

Neither arithmetic nor any other classic science has the ability to understand the complex process of design in all its facets. Based on this perspective, several questions emerge, including: What kind of logic should be able to forecast the balance between rational decisions and emotional effects on human beings? Which kind of (explicit) rule should the sensitive balance of styling follow and assess between artisan skills, inspiring intellectuality and empathy towards human beings' emotions? How should enthusiasm and "love" towards a mobile sculpture as an expression of attitude rationally be analysed? Also, automotive design could be viewed as a cultural contribution, made by sensitive experts who give high-tech products a soul (Wickenheiser 2009).

This statement expresses on the one hand the enormous complexity of design; on the other hand it also shows the attitude of many designers, to possess serendipity for future topics exclusively. Thomas Bürkle, chief designer of Hyundai Motor Europe, for instance, sees marketing not as extraordinarily relevant for his work, as it refers in his opinion too much to past-based numbers (Uckrow 2010).

Unlike very specific, a profound qualification requiring technical questions, the intuitive perception of design does not need a special expertise. But that doesn't mean that everyone can judge design in a competent way, but everybody does. In a company

an engineer wouldn't most probably evaluate a lawyers work and vice versa, but both might have an opinion concerning a product design.

Gert Hildebrand, currently chief designer at the Chinese car manufacturer QOROS, says that design is a painful process, because the quality of a specific design cannot be measured objectively (Kuhn 2007). This is in particular important since managers who usually have non-design backgrounds, like e.g. economics, law or engineering generally make the major design-decisions. On the other hand designers have often insufficient marketing knowledge and are due to their character and working environment rather avant-garde oriented, which might lead to a misinterpretation of the real consumer needs and tastes.

Although the kitchen manufacturer Bulthaup became very successful due to the use of design, Gert Bulthaup now states: "Vergesst Design (forget design)" because in his opinion nowadays everybody "makes" design. According to Bulthaup the word design suffers from wear-out, for him it is about architecture, organization, value, timelessness and quality (Josten 2009).

Conjecture:

Design appears to be a competitive, strategic and distinctive marketing-tool of increasing importance.

2.2 OBJECTIVES OF THIS DISSERTATION RESEARCH

There are numerous examples for successful products, brands and companies. Yet, on the other hand, there are also many examples of products that failed miserably. But which design and marketing relevant factors make a brand strong, a product coveted and hence a company successful? In this area, there is, despite the generally accepted relevance of design and marketing relatively little scientific investigation, in particular concerning a holistic and not purely abstract, even fragmental approach.

Diverse domains of design, like aesthetics or complexity have been investigated individually; a more comprehensive study of design is needed (Noble and Kumar 2011).

There are first steps to approach the topic design measures. One challenge is to combine the sometimes seemingly diametrically apart drifting understandings of design and marketing.

Indeed in the design literature there exist many interesting approaches concerning different design philosophies and the meaning of design. Yet, these are mostly based on experience, intuition and individual attitude and were so far hardly object of empiric examination.

As central goals of this work, the following questions are examined:

- *Which* factors contribute to create successful design in a brand relevant context?
- *How* should these factors be applied?
- What role play *consumers* in this respect?

3 LITERATURE

The areas design and marketing can be characterized by a close relationship. Nevertheless the departments marketing and design are organizational not close to each other in many firms. The area product design is so far mostly subordinate to research and development departments. It is usually not managed by a special board member (e.g. CDO Chief Design Officer), while the marketing and sales department is often represented in the executive board. As a rare example Patrick Le Quement, former head of design at Renault became a member of the executive board in 1995 (Renault 2010, WWW).

Design and marketing are fairly different disciplines. Designers and marketers have usually been educated in different schools and approach projects with different methods. Marketers are rather numbers and analysis oriented, designers tend to work rather visually and intuition based (Kristensen and Grønhaug 2007). Additionally, the fact that the term design is rather subjective and depends on the view from which methods and philosophies concerning design are considered, can lead to the problem that different disciplines like product design, engineering or marketing claim to own, control and manage the design process. Actors within the design process evaluate design according to different perspectives and premises; they even use special terminologies. Design specific vocabularies like “stance”, “tension” or “acceleration” might have different meanings in an engineering relevant context. While designers are often interested in connotations, products can evoke, engineers rather refer to technological issues like tolerances or functionality and sometimes don't understand the intentions of designers (Townsend et al. 2011). These relationships between disciplines involved in the product development process like design, marketing and others seem to have a significant influence on the resulting products (Veryzer and Borja de Mozota 2005). On the other hand, it can be noticed that also in design faculties, classic science as it is executed in other domains does hardly exist, design faculty members rarely possess academic titles like a doctoral degree and seem to base their knowledge and teaching content mainly on personal experience they gained

during professional industrial design work (Noble and Kumar 2011). We can conclude that a need for a better mutual understanding arises and “Marketers must acquire a better understanding of the design process and designers must acquire a better understanding of the marketing process.” (Kotler and Rath 1984, p.19).

Yet, recently mutual approaches in this direction can be observed: Economists research increasingly design relevant topics and designers approach design and brand relevant aspects increasingly also based on empirical and statistical analysis methods.

3.1 PAPERS ON DESIGN AND MARKETING

In the following we want to give a summary of relevant literature in the field of tension and intersection between the areas of design and marketing. With this list of papers we refer to scientific journals covering areas in the field of marketing, innovation, design or psychology; such as Journal of Marketing, Journal of Marketing Management, Journal of Product Innovation Management, Journal of Consumer Research, Design Issues or International Journal of Industrial Ergonomics.

In order to provide an overview regarding existing research and focuses we list the papers in a matrix and classify them regarding the subsequent five dimensions. We show an overview of the core issues as well as relevant implications for the areas design and marketing.

1. Consumer Preferences

Means all aspects regarding product design, which contribute to the fact that consumers prefer specific products. Furthermore this dimension refers to existing methods to find out consumer preferences regarding product design and in this respect also to the integration of consumers in design processes.

2. Innovation

Topics that refer to innovations, like evolutionary or revolutionary product development processes as well as e.g. competitive advantage due to innovations.

3. Design and Marketing

Denotes general and holistic reflections on design, intersections between design and marketing and design management relevant aspects.

4. Meaning

Refers to messages that can be sent through the design of products, like a special way of use, the meaning of a design in certain situations or the communication of brand value.

5. Added Value

Refers to the creation of added value for consumers or producers due to the application of product design.

To illustrate the relevance of the papers according to the specific dimensions, we apply marks. The mark “++” means that the paper covers the dimension extensively, the mark “+” describes that the dimension is relevant in this paper, “o” means that the topic is broached and “-“ means that is not relevant at all.

Table 1 Overview of Design and Marketing relevant Literature

Reference	Consumer Preferences	Innovation	Design and Marketing	Meaning	Added Value	Core Issues	Implications for Design and Marketing
Aaker, J.L 2005	+	o	o	++	+	<ul style="list-style-type: none"> • Dimensions of human personality in relation to brand personalities. 	<ul style="list-style-type: none"> • Design as medium to support brand personalities. • Brand personality relevant features can be transferred on design.
Bar, Neta 2006	++	o	+	++	o	<ul style="list-style-type: none"> • Human preferences of curved versus angular forms. 	<ul style="list-style-type: none"> • Humans prefer curved shapes.
Beinert, Diller 2009	+	++	o	+	++	<ul style="list-style-type: none"> • Marketing innovativeness. • Loosening product innovations from marketing innovations. • Characteristics for marketing innovation. 	<ul style="list-style-type: none"> • Design innovativeness could also be loosened from product innovativeness. • “Deviation form routines”, “creativity” and “divergence” could be also regarded as fundamental elements for design innovativeness.
Berkowitz 1987	++	++	+	+	++	<ul style="list-style-type: none"> • Product shape as a design innovation strategy. • Design as tool to create competitive advantage. 	<ul style="list-style-type: none"> • Triggering attributes are rather considered as discriminating than communicated attributes.
Bloch 1995	++	++	++	++	+	<ul style="list-style-type: none"> • Search for the perfect form. • Consumer response on design. • Holistic reflection of product design in the context of marketing. • Conceptual model and propositions about psychological and behavioural consumer response, 	<ul style="list-style-type: none"> • Fundamental discussion and reflection of design and marketing relevant topics. • The most important attribute of a product is its design. • Design is particularly important in saturated markets. • A product form can be transmitter of all kinds of messages. • Products are seen not atomistically but as an entirety.
Bloch 2011	+	+	++	+	o	<ul style="list-style-type: none"> • Reflections on the development of product design and marketing. 	<ul style="list-style-type: none"> • Design must be researched beyond forms and surfaces. • Significance of design relevant

Reference	Consumer Preferences	Innovation	Design and Marketing	Meaning	Added Value	Core Issues	Implications for Design and Marketing
							<p>contexts and elements like advertising or in-store presentations.</p> <ul style="list-style-type: none"> The meaning of attractive design is not limited to consumer goods.
Bloch, Brunel, Arnold 2003	++	+	+	o	++	<ul style="list-style-type: none"> Centrality of Visual Product Aesthetics (CVPA). Measurement scale for individual preferences and relations concerning design. Three dimensions: Value, Acumen and Response Intensity. 	<ul style="list-style-type: none"> Decide design investments more target oriented. Conceptual base for a scale to measure product aesthetics and preferences by consumers.
Bruce, Daly 2007	+	+	++	++	++	<ul style="list-style-type: none"> Intersections between design and marketing. Creating added value by design. 	<ul style="list-style-type: none"> Design as a visual realization of marketing.
Chitturi, Raghunathan, Mahajan 2008	++	o	o	+	++	<ul style="list-style-type: none"> Comparison of hedonic with utilitarian benefits. Post-consumption feelings concerning consumer delight and satisfaction. 	<ul style="list-style-type: none"> Delighting design can be more effective than functional benefits.
Chou 2011	++	+	o	++	-	<ul style="list-style-type: none"> Product design evaluation in terms of minimalist principles and Gestalt psychology. 	<ul style="list-style-type: none"> Products can influence the three perceptual impressions: Aesthetic impressions, semantic interpretations and symbolic associations. Form connects structure with ornamentation and implies product semantic values.
Clement 2007	++	o	o	+	-	<ul style="list-style-type: none"> Visual influence of packaging design on in-store buying decisions. 	<ul style="list-style-type: none"> Objects with distinct visual attributes elicit attention and influence reactions despite specific brand preferences.

Reference	Consumer Preferences	Innovation	Design and Marketing	Meaning	Added Value	Core Issues	Implications for Design and Marketing
Dell’Era, Verganti 2011	o	++	o	++	+	<ul style="list-style-type: none"> • Diffusion of product meanings. 	<ul style="list-style-type: none"> • Different product meanings coexist during a period of time. • Product meanings are often novel interpretations of existing product languages. • Innovations are not necessarily based on the use of new materials or colours. • A new composition of established product meanings can transmit new meanings. • When their meanings are societally relevant again, newly interpreted past styles can come back.
Durgee, Colarelli O’Connor, Veryzer 1996	++	+	o	+	o	<ul style="list-style-type: none"> • Transfer of consumer’s values into product wants. 	<ul style="list-style-type: none"> • Identification of customer wants. Derivation of product ideas. • Means-ends product-value chains relate target values to actual product uses.
Folkes, Matta 2004	++	+	o	++	+	<ul style="list-style-type: none"> • Effects of package shape on perceived product volume. 	<ul style="list-style-type: none"> • Packages that look unusual or conspicuous imply larger volumes.
Fuchs, Prandelli, Schreier 2010	++	+	+	o	++	<ul style="list-style-type: none"> • Psychological effects on consumers who are integrated in product development decision processes. 	<ul style="list-style-type: none"> • Involving consumers in product development decision processes leads to higher identification, satisfaction, purchase and price willingness.
Hagtvedt, Patrick 2008	+	o	o	++	+	<ul style="list-style-type: none"> • Effects on perception and evaluation of products due to the integration of art. 	<ul style="list-style-type: none"> • Art can be used as a tool to promote and influence the appearance of products. • Products themselves can become art.
Hoegg, Alba 2011	+	+	+	++	++	<ul style="list-style-type: none"> • Influence of product form on perceived of functional performance 	<ul style="list-style-type: none"> • By form visualized functional performance can alter the perceived functional performance. • Visually communicated functional performances are more effective than

Reference	Consumer Preferences	Innovation	Design and Marketing	Meaning	Added Value	Core Issues	Implications for Design and Marketing
							descriptions.
Holbrook, Havlena 1988	++	o	+	o	o	<ul style="list-style-type: none"> • Discussion of multiattributive attitude models concerning actual brands or existing products. 	<ul style="list-style-type: none"> • The application of multiattributive attitude models for new product development implies difficulties concerning the generalization ability.
Jang, Yoon, Lee, Kim 2009	++	++	++	o	-	<ul style="list-style-type: none"> • Design oriented new product development. 	<ul style="list-style-type: none"> • Design with a leading role during the whole new product development process, including research and marketing activities.
Karjalainen, Snelders 2010	o	++	+	++	+	<ul style="list-style-type: none"> • Design of visual brand recognition. 	<ul style="list-style-type: none"> • Strategic use of design as a communicator of brand values. • Company specific and managerial conditions influence the design of visual brand recognition.
Kotler, Rath 1984	+	o	++	o	+	<ul style="list-style-type: none"> • Significance of design as strategic tool. 	<ul style="list-style-type: none"> • Audit to measure design sensitivity and design management effectiveness of a company.
Krippendorff 1989	+	+	++	++	o	<ul style="list-style-type: none"> • Design is making sense of things. • Meanings of design. • Semantics. 	<ul style="list-style-type: none"> • Forms as a result of design are compositions, which evoke different meanings in different contexts with different subjects. • “Form follows meaning” instead of “form follows function”.
Krippendorff 2011	++	+	++	++	+	<ul style="list-style-type: none"> • Design in relation to cultural and technological changes. • Products as language-like, communicative and social artefacts. 	<ul style="list-style-type: none"> • Products as metaphors. • Design must consider target group relevant marketability and symbolic qualities.
Krishina, Morrin 2007	+	o	o	++	o	<ul style="list-style-type: none"> • Touch versus Taste. • Influence of haptic cues of product containers on perceived quality. 	<ul style="list-style-type: none"> • Haptic impression influences product perception.
Kristensen, Grønhaug 2007	o	o	++	o	o	<ul style="list-style-type: none"> • Influences of design on marketing management. 	

Reference	Consumer Preferences	Innovation	Design and Marketing	Meaning	Added Value	Core Issues	Implications for Design and Marketing
Landwehr, McGill, Hermann 2011	++	++	+	++	o	<ul style="list-style-type: none"> Effects of friendliness and aggressive facial expression of products on consumer preference. 	<ul style="list-style-type: none"> A combination of aggressiveness (“eyes”) and friendliness (“mouth”) evokes pleasure and arousal.
Leder, Carbon (2005)	++	++	o	+	o	<ul style="list-style-type: none"> Relationships between specifically characterised car interior design stimuli and specific recipients. 	<ul style="list-style-type: none"> Consumers prefer round less innovative shapes. Straight shapes are regarded as uncommon and thus innovative. Consumers interested in Art or Design evaluate design differently than others.
Luo, Kannan, Ratchford 2008	++	-	+	o	o	<ul style="list-style-type: none"> Use of a hierarchical Bayesian structural equation model to incorporate subjective characteristics in product design evaluations. Concerning design traditional conjoint analyses can lead to incorrect executed product and marketing strategies. 	<ul style="list-style-type: none"> Subjective characteristics have a high influence on product evaluations. Realistic prototypes and stimuli are important concerning product evaluation.
Maimaran, Wheeler 2008	++	+	+	o	-	<ul style="list-style-type: none"> Preceding confrontation of recipients with certain stimuli to influence their preferences. 	<ul style="list-style-type: none"> Preceding showed stimuli can influence product preferences of consumers.
Meyers-Levy, Tybout 1989	++	++	+	++	-	<ul style="list-style-type: none"> Product evaluation in the context of scheme congruity. 	<ul style="list-style-type: none"> Moderate scheme incongruity can lead to positive consumer response. Extreme scheme incongruity can lead to rejection.
Moreau, Herd 2009	++	++	+	+	++	<ul style="list-style-type: none"> By consumers self-designed products. Comparisons with professional designers. 	<ul style="list-style-type: none"> Consumers refer better to their individual tastes than anonymous designers. With equal quality most consumers prefer their own designs.

Reference	Consumer Preferences	Innovation	Design and Marketing	Meaning	Added Value	Core Issues	Implications for Design and Marketing
Noble, Kumar 2010	++	+	++	++	++	<ul style="list-style-type: none"> • Value-based model of key design elements and relationship. • Integrates design, marketplace and organization relevant characteristics. • Process from design goals to design levers and design value. 	<ul style="list-style-type: none"> • Design levers communicate rational, kinaesthetic and emotional design value. • With design value charged objects are subject to interpretive influences.
Orth, Malkewitz 2008	++	+	++	++	++	<ul style="list-style-type: none"> • Holistic reflection of design. • Identification of five descriptive key differentiators for design. • Unique combination of design factors can affect consumers similar like endorsers, advertising or pricing. 	<ul style="list-style-type: none"> • Design must be approached holistically. • Application of key differentiators during design development. • Product design as unique but holistically evaluated combination of individual design elements.
Pals, Steen, Langley, Kort 2008	++	o	+	+	++	<ul style="list-style-type: none"> • Evolvement from functionalistic to user-experience-oriented design. 	<ul style="list-style-type: none"> • Non-technological product characteristics like enjoyment or communication gain relevance.
Patrick, Hagtvedt 2011	o	++	+	++	o	<ul style="list-style-type: none"> • Effects of aesthetically incongruent products on the consumption environment. 	<ul style="list-style-type: none"> • Products design to diminish or increase environmental aesthetic incongruity.
Radford, Bloch 2011	++	++	+	++	+	<ul style="list-style-type: none"> • Consumer responses according to visual product design newness. 	<ul style="list-style-type: none"> • Consumers evaluate the visual appearance of products before they assess the functional newness. • Newness is mainly communicated by product design. • Consumers, not producers or designers attribute novelty to products. • With novel products confronted consumers try to find reference points in design elements.

Reference	Consumer Preferences	Innovation	Design and Marketing	Meaning	Added Value	Core Issues	Implications for Design and Marketing
Raghubir, Greenleaf 2006	++	o	o	-	++	<ul style="list-style-type: none"> • Influence of rectangular package design proportions on buying behaviour. 	
Talke, Salomo, Wieringa, Lutz 2009	++	++	+	++	++	<ul style="list-style-type: none"> • Significance of design newness compared to technical newness. • Deviation from current design states. 	<ul style="list-style-type: none"> • Novel design can trigger and ease the adoption process. • Divergent design can lead to a high level of attention, interest and excitement. • Novel design can contribute to fulfil socially characterized consumer needs. • Radical forms can evoke high attention, but also refusal.
Van Rompay, Pruyn 2011	+	+	+	++	++	<ul style="list-style-type: none"> • Effects of design with congruent shape and typeface on brand perception and price. 	<ul style="list-style-type: none"> • Significant interaction between typeface and shape. • Congruent design elicits higher price expectations.
Verganti 2008	+	++	++	++	++	<ul style="list-style-type: none"> • Novel design. • Product design creates and communicates meanings. • Design languages. 	<ul style="list-style-type: none"> • Different possibilities to convey messages by products, as styling, functionality meaning. • Meanings provide a system of values, personality and identity, that go beyond style. • A specific design language (a set of signs, symbols, and icons) conveys meaning.
Verganti 2011	++	++	++	++	++	<ul style="list-style-type: none"> • Breakthrough products. • Innovation strategies. 	<ul style="list-style-type: none"> • Innovation based on new product uses and meanings. • Systematic and holistic analysis of user experience. • Search for products consumers do not ask for.

Reference	Consumer Preferences	Innovation	Design and Marketing	Meaning	Added Value	Core Issues	Implications for Design and Marketing
Verganti 2011a	++	++	++	++	+	<ul style="list-style-type: none"> • Radical design. • Meanings consumers assign to products. • Product languages. 	<ul style="list-style-type: none"> • The innovation of meanings is about design. • Meanings represent a product's "why" and refer to psychological and cultural motives. • Meanings can be based on individual or social motivations. • Purchase motives imply intangible psychological satisfaction as well as functional utility.
Veryzer, Borja de Mozota 2005	++	+	+	+	++	<ul style="list-style-type: none"> • Product development in the context of user-oriented design 	<ul style="list-style-type: none"> • Application of user-oriented design to understand user needs and value creating aspects.
Veryzer, Hutchinson 1998	++	++	+	++	o	<ul style="list-style-type: none"> • Influence of unity and prototypicality concerning new product designs on aesthetic responses. 	<ul style="list-style-type: none"> • There are abstract principles concerning aesthetics but also learned preferences. • These preferences can be influenced by marketing activities or changes in fashion or social norms. • It is assumed that moderate familiarity is preferred to extreme familiarity or extreme novelty.
Westerman et al. 2012	++	+	o	+		<ul style="list-style-type: none"> • Preference in packaging design of rounded versus angular forms regarding graphics and contour. 	<ul style="list-style-type: none"> • Rounded forms concerning graphics and contour are preferred in the context of packaging, aesthetics and purchase likelihood.
Yamamoto, Lambert 1996	++	++	++	++	++	<ul style="list-style-type: none"> • Influence of product aesthetics on the evaluation of capital goods. 	<ul style="list-style-type: none"> • Product aesthetics can have an influence on sales prices and professional users. • Product design as a competitive tool.

REFLECTIONS ON DESIGN AND MARKETING

The paper „Seeking the Ideal Form: Product Design and Consumer Response“, widely respected in the marketing and design science discusses the intersections of marketing and design and describes the design process, success relevant design criteria as well as psychological and behaviour relevant reactions according the product form (Bloch 1995). As another interesting aspect regarding design, aesthetics can be understood as consumer need; leading to customer satisfaction, loyalty and thus generating added value. The propagated marketing aesthetic is in this respect based on the three areas product design, communication research and architectural design (Schmitt and Simonson 2005). Studying also the impact of aesthetics concerning the evaluation of capital goods is noteworthy (Yamamoto and Lambert 1994). Correspondingly the philosophy “Design Thinking” is discussed as a systematic approach that creates added value for the consumers and at the same time benefits for the companies. You can equate it with “design that brings the individual to focus” or “integrated thinking”. It supports decision making concerning what can be produced for what price and with which distribution channels (Sato 2009, p.40). There is complementary awareness that developing business strategies, based only on rigorous, quantitative analytical thinking is no more sufficient to create competitive advantage. On the other hand it might be too risky to rely only on the primacy of creativity and innovation. Accordingly the concept of the knowledge funnel is recommended, which is based on the idea of “design thinking”. The concept integrates analytical thinking as well as creativity and tries to create competitive advantage during an analytical, but also explorative and exploitative process where phenomena, ideas or objects are filtered or simplified from mysteries over heuristics to algorithms (Martin 2009).

RESEARCH AND METHODS ACCORDING TO DESIGN AND MARKETING RELEVANT SUCCESS FACTORS AND OBJECTIFICATION

Companies and researchers approach the realm of design and market research by applying different methods. While some companies or designers reject market research at all others try different approaches to find out more about the effects of

product design. Researchers, scientists and designers use different methods to identify for consumers design aspects relevant, beginning with rather “asking” methods like conjoint analysis, or means-end chains over rather observing approaches like user-centred design where customers and their preferences are set into the focus, to rather analytic approaches, investigating the meanings and success of specific objects without asking customers.

The concept „Centrality of Visual Product Aesthetics“ (CVPA) describes a scale to measure the expression of individual preferences, relations and respectively a design relevant involvement of consumers towards products. The goal is to assess the importance of design for certain target markets and to better estimate sales potentials, to make more precise design investments and to offer a conceptual base in order to understand central significances of certain visual product aesthetics better as well as to develop a scale that can measure consumer relevant significances (Bloch, Brunel and Arnold 2003). In another interesting approach to explore consumer preferences concerning actual brands or existing products, data deriving from multiattributive attitude models were investigated according to problems concerning generalization ability and transferability. Furthermore, derived reactions of subjects towards hypothetical concepts (e.g. descriptions) or not real objects (e.g. prototypes, models) and according consequential implications for the design of prospective products were studied. However, this method seems to imply difficulties concerning generalization ability and thus should be applied carefully (Holbrook and Havlena 1988).

A popular method to identify ideal products and attributes are conjoint models, which are however less appropriate to identify and evaluate subjective characteristics, which are of particular importance concerning the visual appearance of a product, like e.g. emotional appeal, aesthetics or craftsmanship (Creusen 2011). Conjoint analyses seem to be appropriate concerning the assessment of marginal product evaluation relevant aspects, but they might not be applicable regarding the holistic and complex interrelationships between individual product-components and consumer-reactions (Veryzer and Hutchinson 1998). To research the influence of subjective characteristics

in product design and its evaluations a hierarchical Bayesian structural equation model inhering objective as well as subjective characteristics was applied. The results showed that this approach could lead to a better understanding and more precise prediction of preferences compared to common conjoint models. With the example of an office chair, a conjoint analysis might get the result that consumers more likely buy an office chair at a higher price, while the Bayesian model would come to the result that consumers perceive a high-priced office chair as more durable and thus come to a higher purchase intention. If that subjective attribute is unknown the high-priced chair might be promoted by mistake as “luxury” instead of “durable” (Luo et al. 2008). However, the effects of certain design related product modifications were also investigated based on conjoint analysis. Unlike conventional methods of selection-based conjoint analysis, it was not asked for alternatives, which appeared to the respondents the most attractive or buying worthily, but for alternatives that corresponded best to certain design relevant dimensions. Main and interaction effects of design impressions were investigated, as to what extent the package of a car (saloon, hatchback, estate), or the extent of a car’s overhangs were evaluated by the interviewees as part worth of the dimension “sporty” (Neibecker and Kohler 2009).

Another interesting method with the goal to improve the predictability of design -in the context of automotive design- is discussed with the Design Parameter Shift Evaluation Method (DPSE), which is based on the Attribute Engineering method. It reviews the effects of different design variations according to the extent of certain parameters within a non-varying context and its resulting effects on recipients (Eichhorn 2008), a further interesting concept is the investigation of car interior design according to relationships between stimuli inhering attributes like complexity, curvature or innovativeness and specific recipients, as consumers interested in art or design (Leder and Carbon 2005).

In order to investigate possibilities to evaluate product design in terms of minimalist principles and Gestalt psychology an improved analytic hierarchy process seems to be suitable (Chou 2011). While to explore key design elements and relationships, a value-based model that integrates design, marketplace and organization relevant

characteristics and also illustrates a process from design goals to design levers appears useful. Design levers can be used to communicate rational, kinaesthetic and emotional values; design goals are influenced by market place factors, like price sensitivity or laws and organizational factors like a company's resources or design culture (Noble and Kumar 2011). A value-means-product chain seems to be a further option to research how consumer's values can be transferred into product wants: To get a clearer idea which key forces and motives drive specific product wants abstract terms like "self-expression" can be translated into products (Durgee et al. 1996). Another rather product design oriented approach referring to the effects of visual product features and congruent design showed that price expectations and brand perception can be effected, whereas corresponding effects can vary depending on product categories and consumer personality (Van Rompay and Pruyn 2011).

A different more "design-expert" related approach to predict the success of automotive design is the "Rosenthal-Raster" that evaluates design alternatives, based on criteria deriving from human attractiveness research. It refers to structural arrangements of the automotive entirety as a symbolic reference-medium of societal structures and to factors of attractiveness in the form of humanization analogies as anthropological aspects of the human body, visualisations of security, technical and financial symbols. These human response mechanisms were summarized into specific physiognomic characteristics of attractiveness. It is proposed that an automotive design's success is based on cultural comprehensive physiognomic ideals of beauty; it should reflect the brand, market segments or the country of origin due to "facial expression" or "body language" and anticipate prospective preferences of attractiveness, e.g. due to the change of values (Peters 2010, WWW; Rosenthal 1999).

The success of certain user oriented design consultancies and results of research imply that design processes should start with a profound analysis of potential customers, their needs and behaviours by asking and observing them. Due to this user-centred approach common interpretations of design as an intuitive method to make products look better could be overcome. Nevertheless this is only one approach in the field of product design: Design-driven innovation represents another promising way to create

sustainable, highly innovative and unique added value (Verganti 2008). In line with that, the statement “Design Is Informed by Explorations, Not Re-Search” illustrates that the syllable “re” describes a re-peated search to explain given data and their cautious repetitively re-examination. Natural sciences tend to suppose that results of explanations create the future as demonstrated in the past but concerning the development of artificiality. Nothing repeats itself, and accordingly the solution of present problems, visions of desirable futures and even science fiction might serve much better as predictors of the future than knowledge from the past and designers should not refer too much on data-driven research to justify their proposals (Krippendorff 2011, p.416). At kitchen manufacturer Bulthaup sales employees are regarded as important informants of the development department, the company does not carry out market research as a matter of principle: „Wir laufen keinen Trends hinterher. Die sind für uns nicht ausschlaggebend (We do not follow trends. They are not relevant for us)“ (Josten 2009, p.156). In this respect innovation strategies are proposed, which can lead to breakthrough products neither users nor buyers asked for, but once they experienced it, they adore it. Such strategies are based on systematically analysing user experience and address the consumers’ existing needs and e.g. state the question how new technology could help to create offerings which are more meaningful, transcend existing needs and give the consumers a totally new reason to purchase a product (Verganti 2011).

DESIGN AND MARKETING EFFECTS

As products imply a wide range of symbolic and semantic meanings the statement “form follows function” is evolved and discussed in the rather emotion-based understanding of design “design is making sense (of things)” (Krippendorff 1989, p.9). Similarly as the essential dimensions of the human personality (extroversion, kindness, diligence /conscientiousness, emotional stability and culture) in relation to five essential investigated features of brand personalities were studied (Aaker 2005), the holistic effects of package design concerning consumers were examined and five descriptive key categories and respective differentiators for package design identified. It seems to be proven that holistic package designs and their effects on consumers as

well as the generation of brand impressions are based on a specific and unique combination of design factors which effect consumers in a similar way like endorsers, advertising or pricing (Orth and Malkewitz 2008). Complementary approaches to derive and develop brand identity-constitutional characteristics from the personal identity research are described, which seem to be supported by the discussion of holistic, distinctive and memorable identities in the context of brands (Esch and Langer 2005). Here, the developed so-called experience modules can inhere different kinds of experiences and provide additional value to a product`s functional benefits and thus contribute to brand differentiation (Schmitt and Mangold 2005); in this respect comparing the significance of hedonic with utilitarian benefits and illuminating post-consumption feelings concerning consumer delight and satisfaction is interesting (Chitturi et al. 2008).

Moreover it is stated that the design of products can be regarded as a rather language-like, communicative and social artefact in the focus of cultural and technological changes (Krippendorff 2011). This approach can be supported by discussing basics concerning the design of brand logos and in this respect elaborating questions like abstraction, associations, generation of attention, effects of forms, colours or other stimuli (Esch and Langner 2005a). The investigation of effects of rounded design compared to angular design and other design relevant effects regarding typicality, unity and perceived ease of use extend this research (Westerman et al. 2012). But also aggressive or friendly “facial expressions” of products like e.g. cars or mobile phones influence product liking and sales: Interesting research investigated consumer reactions concerning anthropomorphic effects of specifically designed products like mobile phones or car front grills with downturned or upturned shapes and arched or slanted headlights; in the case of cars recipients seem to prefer upturned, friendly grilles combined with slanted, aggressive looking headlights (Landwehr et al. 2011). Reviewing the strategic application of design as a communicator of brand values has identified relevant key drivers and illustrates that the design of visual brand recognition seems to depend on company specific and managerial conditions (Karjalainen and Snelders 2010); an analysis of internationally oriented brand-management-strategies, cultural values and circumstances in which consumers tend to

align their thoughts with sociocultural norms extends knowledge (Briley and Aaker 2006).

Also in the context of design and radical innovation, meanings are considered as relevant and led to interesting research that illuminated the communicative significance of design languages, symbols or functionality and how the way of using products and their meanings for consumers change and lead to innovation (Verganti 2008). The diffusion of product meanings in design intensive branches concerning the dynamics speed and contagion was complementary investigated; collaborative, product meaning diffusion processes initiated by several companies influence other manufacturers and spread fast. Manufacturers which focus only few meanings on their goods can quickly penetrate markets and propose precise product identities (Dell’Era and Verganti 2011).

Further research explores the effects of specific design with consumers, like the investigation of psychological effects concerning the positioning of product images on packages and accordingly the product’s weight and nutritiousness assumed by consumers (Deng and Kahn 2006) or to what extent the integration of art in product and package design –like paintings of famous artists like Van Gogh- printed on the package influences the evaluation and perception of consumer goods (Hagtvedt and Patrick 2008). Investigating the question if consumers evaluate package contents differently according to size or proportion (Folkes and Matta 2004) is extended by the study as to how far specific proportions of rectangular packages influence the buying behaviour of consumers (Raghubir and Greenleaf 2006). Experiments concerning the relationships between haptic cues of product containers and the quality by recipients perceived widens this field of research and is e.g. relevant when companies want to communicate or change certain brand messages (Krishna and Morrin 2007). Also the design of product shapes is discussed to be an appropriate innovation strategy and design seems to be an essential tool to create competitive advantage. Ideas how to create competitive advantage by the use of design were investigated with the example of food design; research suggests that a triggering attribute is rather as discriminating in itself as a communicated attribute (Berkowitz 1987).

The shape of an object's outlines can be described as form-quality and divided in edgy or round forms, characterizes a sign's meaning significantly and can evoke various associations and reactions with consumers (Esch and Langer 2005a). Shapes are a significant element of product design. The investigation if humans prefer curved visual objects compared to sharp angled objects is an interesting contribution to design research. It was found out that consumers have a tendency to prefer round forms, even when semantic meanings of products are insignificant (Bar and Neta 2006). Supporting these findings a preference of rounded versus angular shape characteristics could be noticed across different types of product packages and product categories, also referring to aesthetic preference and purchase likelihood (Westerman et al. 2012).

Some future preferences and tastes seem to be shaped during different stages of life. For example songs that were appreciated during late adolescence evoke certain lifelong emotions (Holbrook and Schindler 1994). However, possibilities how to save brand knowledge in the brain merit to be mentioned; cognitive psychological accesses and neuro-economical approaches to describe brand knowledge in form of semantic networks and schemes as well as possibilities of the dual-code-theory and the multi-modal memory-theory to capture nonverbal stimuli have been discussed in this respect (Esch and Möll 2005). Additionally it is explained which factors and elements regarding the design of logos and brand labels appear eminently affective concerning a positive memory effect (Esch and Langner 2005a); factors relevant in brand building are e.g. key frames that address target groups in long term activating basic motives as well as integration, continuity and concentration (Ruge 2005).

The investigation as to how so-called scheme congruity effects the product evaluation with consumers extends knowledge concerning design continuity. Congruity between a product and a product category scheme is called scheme congruity; extreme scheme incongruity describes a significant difference between product and category scheme (Meyers-Levy and Tybout 1989). Illuminating the factors unity and prototypicality as significant visual aspects of product design broadens knowledge in this area. Reactions of recipients concerning unity and prototypicality were investigated by applying specifically modified line drawings of objects like fridges or telephones (Veryzer and

Hutchinson 1998). Investigating the significance of design newness in the context of product innovativeness and comparing the impact of design newness with the impact of technical newness complements research (Talke et al. 2009).

CONSUMER INTEGRATION

Basic relationships concerning user-oriented design and product development were object of examination (Veryzer and Borja de Mozota 2005) and complemented by discussing the evolvement of product development processes from transferring knowledge to customers to a dialogue with the customer. Research and development departments are no longer solely responsible for the invention of new products, there is rather a strong trend to open-innovation developments (Burmeister and Loh 2009) and accordingly research concerning the influence of Web 2.0 in regard to a customer oriented product development process merits attention. Object of investigation is a mutual, communicative, temporarily actual and authentic relationship between consumer and producer with the goal to get a solid appraisal concerning the relative importance of individual product attributes and the detection of emerging trends and consumer relevant topics (Decker and Gribba-Yukawa 2009). Concerning the influence of the Web 2.0 research to what extent, the integration of consumers in product design decisions affects the consumers' acceptance and willingness to pay a higher price extends this scientific area (Fuchs et al. 2010).

3.2 RESEARCH GAPS

Intersections between design and marketing are so far relatively unexplored. Hence there are different approaches studying design relevant topics. In most cases, design relevant topics are examined abstractly and isolated from a brand.

For example, detail problems were investigated, like the arrangement of certain elements or their effects on the overall perception of a product. In the first place attention was turned to available or enhanced analysis methods which evaluate product features. In particular graphic design, such as the design of logos or package design and the effects of certain product sizes or proportions have been investigated as marketing relevant design topics. Furthermore, psychological and brand personality formative elements, have been investigated also in an intercultural context.

But design has to be examined more holistically beyond surfaces and forms only. A superior product design is imbedded in a broader context of design excellence, containing elements like websites, media advertising, store presentation and more (Bloch 2011, p.379).

According to the author's state of knowledge, the effectiveness of product design has up to now not been investigated holistically in the context of time, brand, environment and price. We assume that product design as a whole cannot be explored in isolation. However, relevant brand-formative factors and added value generating leverage due to design shall be object of investigation.

Varied findings, gained particularly in the area of advertising and marketing-psychology could be transferred to three-dimensional products and investigated. New possibilities due to the Internet and computer based visualization tools provide potential concerning the development and modification of product designs and their effectiveness.

4 APPROACH BRAND FORMATIVE DESIGN

4.1 DEFINITIONS OF MARKETING AND DESIGN

The term “design” can be traced back to the Old Latin word “seignom” (“signum”) and stands for “attribute”, “character”, “badge”, “sign” and “flag”, “banner” as well as “evidence” or “image, figure, sculpture”. From 16th Century, it is used in English with the meaning of „to plan, to construct“, since the 17th century also as „to draw, to plot“. The substantives “design” (draft, plan, construction) and “designer” (the person who designs) are deduced from that (Buchholz and Mackowiak 2004). This shows, that the word “design” can have different meanings and associations according to situation, language and cultural area. In English spoken countries the term design means the planning, on which the production of objects or systems is based. In a broader sense, it describes arts and crafts, engineering and applied arts respectively. The verb “to design” refers to the process, to create a plan to develop a product, a structure or a system, while the noun „a design“ is used either for a solution (e.g. suggestion, drawing, model) or the final product as the result of an implemented plan (design process). Apart from this classification there are virtually no other restrictions; the final product can represent everything from clothing over graphic interfaces to skyscrapers (Wikipedia 2010a, WWW).

In French and English speaking countries “design” can be associated with the German terms “Gestaltung (design)” and “Entwurf (design)”; the Italian “disegno” for “Zeichnung (drawing)” or “Plastik (sculpture)” however accentuates, similar to the Spanish word “diseño”, rather a creative and artistic process (Wikipedia 2010, WWW).

In German, the term design refers particularly to the form-specific and functional creation and shaping of a product (Dudenredaktion 2007). We also talk about designers as originators of specific design like “fashion design” or “product design” and use terms for styles like “retro design”. On the other hand, in technical planning or construction of objects, systems or methods we speak of design and apply terms like

“computer aided design (CAD)“. Design is increasingly not only related to things, but refers also to habits (e.g. personality design), to symbolic representations of the term (communication design), to the perception (light design, olfactory design) or to nutrition (food design) (Buchholz and Mackowiak 2004).

The borders between development process and end result merge because product design refers to the process of determining and arranging specific characteristics of a product offering and consequently to the final product design (Creusen 2011). A similar approach puts added value for consumers and manufacturers into the focus. It understands process and end result as unity and defines design as “... the process of seeking to optimize consumer satisfaction and company profitability through the creative use of major design elements (performance, quality, durability, appearance and cost) in connection with products, environments, information and corporate identities” (Kotler and Rath 1984, p.17). It turns out that design can be described as the entirety of all functions and attributes, influencing how a product looks like in regard to the customer’s needs (Kotler and Bliemel 2006).

Additionally, a very holistic and integrated description of design as a structural, constitutional and determining principle that is successfully used by economy, media and politics as an aesthetic and communicative optimization strategy deserves attention. In this sense design creates the environment, characters, offers, accessories and elements of an artificial world in that all products, desires, pleasures, all experiences and feelings become the base for purposefully executed design processes. Accordingly, design creates a kind of artificial world in which nearly every kind of experience, impressions and goods are styled in an aesthetic, semantic and emotional way in order to stimulate the recipients’ emotions. Product design, process design, graphic design, architecture, interior design, and all corporate identity relevant issues are areas in which design is expressed (Wolbert 2004).

Often, the terms design and art are equalised, in fact there exist similarities, like the artistic and creative techniques used. Nevertheless, art and design can clearly be separated from each other: A designer whose products don’t sell due to the design has failed, art, however, must not be commercially successful at first (Geyer 1987). It can

be argued that design is even more difficult than art. Design, in contrast to art, should not be used for the designer's self-realization but designed in the sense of the client or the customer. The product must prove itself in practice and refer to determined parameters (Aicher 1996).

Referring to the same functionalistic understanding of design, one of the most important German designers, Dieter Rams, has established ten principles for good design (Kotler and Bliemel 2006, p.486):

“Good Design

is innovative.

improves the product's benefit.

is aesthetic.

shows the product's logic structure, the form follows the function.

is clear.

is honest.

is durable.

is continuous and consistent down to the last detail.

is ecologically aware.

is confined to the essentials.”

New design should reduce manufacturing and operating costs, improve emotional quality, self explanation and way of use, ensure environmental sustainability and encourage good behaviour, provide information on proper behaviour. Following this understanding of design there seems to be no alternative compared to functional design, made for the use by human beings, and the main reason for the effect of functional oriented design is honesty and inner truth. „ Ein Stuhl wird zum Sitzen gemacht, zum Sitzen gekauft zum Sitzen genutzt. Er muss zu allererst einmal gestaltet sein, dass er diese Funktionen erfüllt. (...) Funktionsgerechtes Design entsteht aus einer intensiven, umfassenden, geduldigen und nachdenklichen Auseinandersetzung mit der Gebrauchsrealität, mit dem Leben, den Bedürfnissen, den Wünschen und Gefühlen der Menschen. (A chair is made for sitting, bought for sitting and used for sitting. First of

all it must be designed to fulfil these functions. (...) Function oriented design evolves from an intensive, comprehensive, patient and thoughtful analysis of the reality of use, life, needs, desires and feelings of human beings“ (Rams 2004, p.107). It is claimed already earlier that products can always be improved in respect of attractiveness, usability or manufacturing costs; good design begins with focusing on the customer, products must be designed to create appeal and satisfy customers, furthermore it can be a lever to reduce costs in several areas, like manufacturing processes or more effective advertising campaigns (Johnson 1948).

These meanings of design inhere the tradition of early functionalists referring to the philosophy “form follows function”, which goes back to the statement: “Whether it be the sweeping eagle in his flight, or the open apple-blossom, the toiling work-horse, the blithe swan, the branching oak, the winding stream at its base, the drifting clouds, over all the coursing sun, form ever follows function, and this is the law. Where function does not change form does not change. The granite rocks, the ever-brooding hills, remain for ages; the lightning lives, comes into shape, and dies in a twinkling” (Louis Sullivan 1896, p.4).

Beside concentrating on characteristics like functionality design is also an eclectically characterized field, based on a wide range of knowledge in arts, consumer behaviour, ergonomics, engineering, psychology and marketing (Noble and Kumar 2011). In a wide sense of creativity design can be understood as link that fulfils human goals and needs by connecting them with material culture (Esslinger 2011). The following definition saying that a good product design creates attraction and communication with consumers but also adds value to the product by increasing its usage experience (Bloch 1995) evolved insofar as design refers to a product’s form characteristics and also provides utilitarian, hedonic and semiotic benefits for the user (Bloch 2011).

Another interesting approach of design, concentrating more on the meaning and messages communicated by product design illustrates the following definition of design: “The etymology of *design* goes back to the Latin *de* + *signare* and means making something, distinguishing it by a sign, giving it significance, designating its relation to other things, owners, users, or gods. Based on this original meaning, one

could say: design is making sense (of things) (Krippendorff 1989, p.9).” The statement “design is making sense (of things)” can be interpreted ambiguously. Namely on the one hand insofar as design is an activity to create sense concerning perception, experience or aesthetics and on the other hand as an intention that product designs are comprehensible or meaningful to subjects. A further interpretation refers to the phrase “(of things)” saying that design is concerned with the subjective meanings of physically existing objects. The parentheses imply that already the recognition of any object as a thing is a sense-derived distinction and the division of our world into subjective and objective realms seems to be quite untenable (Krippendorff 1989).

A similar design definition approach, putting meaning into the focus states that design deals with meanings people assign to products but also with the creation of messages or product languages that can be applied to convey intended meaning. A challenge, which makes design research difficult, is that the definition of design tends to be fluid. Typically, definitions of design are as broad as possible, like characterization of design as process to change existing situations into preferred ones, or as a process, which coordinates all factors involved in a product, its production and consumption, and thus design becomes generic and can hardly be demarcated from other areas of investigation (Verganti 2008).

Although in many areas design management is regarded as a marketing activity; the interactions between marketing and design are relatively unexplored (Bruce and Daly 2007). In the past manufacturers first developed products, then determined a price and after that tried to sell the products. With this concept it was assumed that marketing activities like distribution were relevant at the end of the exchange process. But this concept presumes that companies would know exactly what to produce and that markets are receptive enough to sell enough products at a good price. This model is adequate for sellers’ markets but not for markets with a high degree of competition. Today exchange processes are rather consumer value oriented. This means, before a product is being developed, consumer relevant values need to be defined. Target groups must be identified and segmented; needs, values and preferences found out. Finally after positioning a product based on these findings, the product development

process, pricing and the development of the complete services is started. These consumer oriented development processes aim at a high creation of value for the respective target markets (Kotler and Bliemel 2006). Marketing can today be defined as a process in the economic and social structure, through which individuals and groups satisfy their needs and desires by creating products and other things of value to offer and share with each other and can be understood as an exchange ratio to satisfy consumer needs; it can be regarded as a model understanding marketing as an exchange in free choice, under fair conditions and between legally competent partners in order to create value for both parties (Kotler and Bliemel 2006).

Similarly as the concept of marketing changed also the ideas of what is “design” evolved. Instead of just designing products and pushing them into the market, it seems that design and marketing are increasingly referring to consumers needs and particularly to the creation of meaning, going hand in hand with sending product or brand relevant messages. We can conclude, that one challenge in design and marketing research is that the term design is pretty fuzzy. Design can have various meanings: It is not clear if it refers more to styling or a general creation of functionality. Even the semantic meaning if design is a process or rather an outcome is not clear. Thus concerning design research it is of importance to define and clarify what aspects of design are examined and of which character they are.

4.2 PROPOSITIONS TO APPROACH BRAND FORMATIVE DESIGN

As illustrated above the term design is very versatile and wide-ranging, beginning with design as an action, a process and ending as a description of a style. Accordingly it is difficult to apply the term design as a valid definition for this research.

Nicholas Adjouri compares brands with religions (Lotter 2010): In this respect, design can be used to transform immaterial, intangible brand values into realistic objects or products and thus contributes to create a brand image in this context, similar to religious cult objects.

Our goal is to illuminate design in a brand formative context and to question, which effects contribute to create sustainable brand value, coming from purposefully and intentionally composed objects. Out of these propositions we want to derive a route to Brand Formative Design.

Objects in relation to consumers consist of many-facetted aspects. We want to concentrate merely on visual and context related aspects here. We don't integrate fields like e.g. technical observations as ergonomics or production technology; furthermore, we don't examine efficient or creative processes and dogmatic discussions. The focus shall be on the visually effective outcome of objects in relation to brands, contexts and recipients. In simple words: *Which elements contribute to excite customers for brand products and in which way?*

PERCEPTION

In the centre of product judgement and perception is the recipient, subject respectively consumer. Everything about a product is created in the individual perceptive world of consumers who assign certain attributes, meanings and attitudes to objects and set them into a context. In humans there are certain depth psychology and psychology of perception relevant activation processes, which can be triggered unconsciously and uncontrollably (Kroeber-Riel et al. 2009), Gestalt psychology assumes that there are large amounts of inborn principles that are relevant to elicit preferences and reflexes (Bloch 1995); stimuli are often related to clear, prior associations, like stereotypes, symbols or country specific music, activating certain associations in the memory of humans (Maimaran and Wheeler 2008).

Due to certain cognitive characteristics and physiological dispositions recipients could perceive identical design differently. However, there seem to be effects which influence a wide range of consumers and could be regarded as universal, such as knee jerk reflexes, the reaction towards moving stimuli or schemes like the preference of childlike characteristics.

This means for Brand Formative Design that there exist universally valid preferences and schemes, objects could intentionally refer to and thus more or less force attraction, judgement and a first assignment of attributes like the design looks “cute” (childlike characteristics) or “sexy” (erotic scheme). Similarly as some men can’t resist looking after a beautiful woman, others can’t resist looking at beautiful product design. People might get a positive attitude towards a specific product and their users due to a specific design; some road users might not develop such aggressive feelings towards drivers of “childlike looking” Fiat 500 compared to drivers of other cars.

Proposition P 1. Design can affect universally valid schemes.

Individual design specific tastes derive from immanent design preferences, culture and social contexts, the development of the sense for design and personal individual variables (Bloch 1995). Supporting these findings there appear many affective factors that lead to an individual perception and evaluation of objects, for example with regard to personal physiological constraints, attitudes or situations (Radford and Bloch 2011); this can be complemented insofar as subjects relate stimuli with preceding different associations like certain ideas or icons and additionally the subject’s specific, personal attitude (Maimaran and Wheeler 2008). This experience is constantly updated and expanded and influences the evaluation of objects, people or situations. Having gone through these individual experience-based filters a specific image of the perceived image or a certain situation arises. Based on this perceptual image, decisions are finally made (Briley and Aaker 2006).

Design seems to be evaluated and perceived similarly and individually, also among people who share the same ethnic or geographic origins. As an example people in Germany might have different tastes compared to people in Italy, but in Germany itself again there exist individual tastes among social groups. But once again, these different tastes according to different social groups may differ more, compared to tastes of identical Italian and German social groups. In a very simplified sense this means that Germans prefer to drink beer, Italians however might rather like wine among all social groups. But German and Italian members of a certain social group prefer Cassina furniture, while other groups rather might favour furniture by IKEA.

Preferences are based on the one hand on inborn preferences, but also on learned preferences deriving from the social surroundings. As an example, it could be that siblings who grew up in the same environments have similar tastes but at the same time develop tastes e.g. according to their professional surroundings. Certain professional groups develop “uniforms” applying specific symbols. For instance in consultancies or banks the use of cufflinks is pretty common, in creative branches on the other hand wearing ties is rather unusual, even a no-go. Similarly, members of social groups influence each other by using specific symbols or personal tastes and preferences. Furnishings of different investment bankers are most probably more similar to each other compared to furnishings of farmers.

This means that consumers assess product design according to individual inborn tastes and physiological parameters but significantly also according to tastes influenced by their sociocultural environment and experiences. Referring to these parameters recipients develop individual filters and evaluation mechanisms. Consequently objects always seem to be perceived and judged subjectively and individually.

Proposition P 2. Consumers perceive design individually due to physiological, psychological, cultural and social settings.

BRAND

Brands and design respective products can hardly be observed in an isolated way; the success of Apple provides interesting examples, which seem to support this point of view: Beside the original core strengths of Apple –the design and the user friendliness– the recent success of Apple is based on a digital convergence, which offers holistic consumer experiences through the synergy of software, hardware and Internet. The fact that Apple does no longer just provide computers and operating systems, but also offers telecommunication services, markets music rights, produces phones and music players (Esslinger 2009) is underlined by the successful example of the stylishly designed iPod, which conveys a radically new meaning implying a new experience that is not limited to listening to music (Verganti 2008).

The example of Chevrolet, on the other hand, shows that there are (non American) customers who do not care significantly for the brand's image. These consumers who are mainly located in eastern regions of Europe or in Asia have not developed such strong brand loyalties so far and are first of all happy to get a reasonably priced car with a brand name, they have at least already heard of (Albers 2010).

The importance of design in the context of a brand depends on the brand structure, the company's strategy and the surroundings. With the example of Apple, design is an obvious and strong distinctive element but not the only one. If we compare the pure forms of smartphones of the brands Apple, Samsung or LG there is not such a big difference. The distinction happens also on further levels. Chevrolet cars for the above-mentioned markets are not exceptionally distinctive either, although the brand is less important. A manifestation of a corporate identity with regard to future strategies in order to strengthen brand value could be of importance in this case.

We can assume that brands are similar to design, they seem to be not just signs that mark a claim, they are rather interactive and dynamic structures that consist of many elements, beginning indeed with signs like logos or corporate identity elements, but they also imply experiences, pictures, smells, products, prizes, representatives and much more. Altogether these elements can be perceived by individuals, but also by the public and form an image in the consumers' minds. The elements that create this dynamic structure can change over time, according to their significance and existence: 30 years ago nobody could imagine the Internet as a brand formative factor, whereas today the significance of printed advertising diminishes.

All these brand formative elements can have an effect on the perception of products and vice versa. A product like a forklift, which is effected by different brand values like e.g. of Still and Linde could evoke in one case a powerful and in the other case a reliable association with consumers. Another, dynamic and dominant looking product can transfer this impression onto the brand and in this respect also on other products of the brand.

Not only single products but also a holistic understanding of brands is important; a car manufacturer like Smart can evolve with the car sharing concept “car 2 go” from a producer of small cars to a provider of convenient mobility and vice versa a company offering access to knowledge like Google could start to manufacture autonomously driving cars.

These examples describe that a product design should not be considered in an isolated way, because success is much more than just an attractive, three-dimensional body. The significance of brands in relation to design can vary, but economically successful design without a strong brand in the background is rather unusual, especially in saturated markets.

We can conclude that the role of design in the relationship with brands can vary, but the relationship itself cannot be left aside: Thus design should not be judged in an isolated way.

Proposition P 3. Designs and brands are mutually dependent and can hardly be evaluated independently.

Strong brands significantly contribute to the fact that companies can sell their products at higher prices: How far a strong brand can increase the price can be illustrated with examples of more or less identical products being sold with different brands. Beginning with simple consumer goods like yoghurt, which is sold on the one hand at the discounter ALDI for about 25 Cents and using the trademark “Desira” and, on the other hand the more or less identical yoghurt of “Ehrmann” being sold at the supermarket REWE for about 50 Cents. Both products have the same package shape and are -due to the product codes- made by the same manufacturer. They differ concerning the printed graphics; brand and price; how far the yoghurt itself tastes differently is difficult to say.

Another particularly interesting example in this respect is the Aston Martin Cygnet, a small car, more or less identical with the Toyota IQ. Concerning the exterior the car differs by another front and back, in the interior by the use of exclusive materials. The 98 HP engine is the same as in the Toyota. The Aston Martin starts at a price of 37.995

€ while the Toyota begins with a price of 12.050 € (Dohr 2011, WWW; Toyota 2012, WWW).

These examples illustrate the levers brands can generate and that according to emotional values identical products can be sold significantly more expensive. In some respect and cases design or product form don't seem as significant concerning product prices. Rather there seem to be further, brand related effects. On the other hand it could even be argued that a weak brand diminishes positive effects of a good design.

Proposition P 4. A design that uses a weak brand can reach significantly higher prices when it applies to a strong brand.

Concerning new design of products different approaches can be seen. On the one hand rather evolutionary progress, where subsequently new products refer in different expression to the older ones and on the other hand revolutionary products that according to design technology or other characteristics differ, significantly from existing products. How far product development processes are rather revolutionary or evolutionary depends on parameters like company, technology, product category or design philosophy.

Companies like Artemide, Nintendo or Apple created revolutionary products and design. Such companies utilize strategies of radical innovation; they don't start with investigating user needs, rather they proceed in the opposite direction and propose, respectively push a breakthrough vision into the market. If Nintendo had referred to the way, teenagers used their game consoles they would have found out their obvious needs, which would be a stronger and maybe faster console but not a new device that integrates interactive body movements as the Wii does. Radically innovative firms don't care too much for apparent needs but research evolutions in society, economy, culture, art, science and technology (Verganti 2011a). To find out more about consumers' needs, companies usually ask or observe them while using the products. This is effective to improve existing products, but rarely leads to revolutionary new products, particularly when users are not familiar with the new technology or design (Verganti 2011). The author of this dissertation research once talked to a board

member, responsible for research and development, of a global market-leading manufacturer of cleaning devices about the significance of market research. The R&D manager mentioned that according to his experience in the case of evolutionary products market research is absolutely necessary, but if it is about revolutionary design and innovations it is completely useless.

In the case of FMCG introduced already in the market consumers might react – unconsciously- very fast and sensitive to the smallest changes of the product design. Such changes can lead to uncertainty, because consumers might relate a change of the design with the change of product-quality. It is argued that uniform, consistently designed packages or presentations communicate a reliable quality of goods (Domizlaff 2005), other products successful over decades like a Zippo lighter or a Porsche 911 illustrate that from time to time consumers prefer well-known to novel forms (Bloch 1995). For Bruno Sacco -Mercedes-Benz design director until 1999- continuity was one of the most important issues concerning automotive design; breaks or surprising transformations should be avoided (Lewandowski 2008); in this respect Sacco's design philosophy was similar to Raymond Loewy's –one of the most famous industrial designers ever-, who stated the MAYA (Most Advanced, Yet Acceptable) philosophy, which propagates an evolutionary but also according to different parameters, revolutionary design approach (Loewy 2000).

Similar approaches can be identified with other products that became brands themselves. The Maggi and also the Coca-Cola bottles imply strong brand associations and evolved in a very evolutionary way. If we compare the development of the Coca-Cola corporate identity and package design with Pepsi, we can notice that Coca-Cola didn't change very much at all. Coca-Cola has kept the corporate colour red, while Pepsi used the colours red, blue and black. The logotype of Coke didn't change significantly over years while Pepsi's CI has been redesigned regularly. The same is true for the characteristic Coke bottle that kept the form constantly for generations.

The Porsche 911 can be seen as one of the most unique existing car designs. A novel, so far unknown car design with the typical 911 proportions would most probably immediately be associated with a Porsche 911, although there would be no badges or

other brand distinctive signs. This strong distinctiveness derives from a revolutionary design due to the back-engine-concept of the VW Beetle or Porsche 356, which was evolutionarily evolved by means of the 911. Although the whole concept was developed further in an evolutionary way, with constant parameters as the back-engine-concept and the basic architecture, the 911 design history had some revolutionary breaks. The first significant break was the introduction of the 911 as successor of the 356 in the 1960s, the second happened in the late 1990s with the introduction of the new Carrera (996), which was a totally new development applying rather a radical new design but still referring to the old VW Beetle genes. Such a strong distinctiveness can not be reached either with a Ferrari, a MINI or a Bugatti. On the other, hand examples like the British Roadster Morgan or the Land Rover Defender didn't hardly evolve at all within the last 60 years, but they cannot be regarded as timeless, they appear as likeable relicts from ancient times.

There are further examples of unique product designs, which were first revolutionary and then became evolutionary, like the Odol, WC Ente or Ritter Sport chocolate packages; when Apple's iPhone was introduced it was something completely new, radically reduced to a simple shape and an interactive touchscreen. But from the first iPhone until the present iPhone 5 it changed only in details. The same is true for the iPad and also in parts for the iMac or MacBook. But in Apple's case we can also notice breaks during the design evolution: Apple created designs that were very edgy in the beginning but had a new colour and architectural concept. Then at the end of the 1990's Apple applied a mixture of translucent, soft and colourful shapes. Later transparent, white and geometrical but still round shapes were applied. Today the design refers to ancient Braun design with strict geometrical architectures, using high quality materials like aluminium.

On the other hand, companies like FIAT or Ford change the shape of their front grilles constantly and often, really strong brands on the other hand, proceed much more carefully when changing significant design characteristics. When Audi decided to change its front grill appearance, from a rather small and horizontal oriented grill, to the big singleframe front grill, they prepared the customers for the new grill. Its design

was transformed step-by-step from the small horizontal grill, over an intermediate stage (doubleframe grill) to the current singleframe grill; simultaneously show cars communicated the new grills. This example illustrates “only” the launch of a new front grill; but if a company decides to change or extend the base of its business significantly, like from a manufacturer of typewriters to a company providing business solutions and consultancy services like IBM did, proceeding carefully and strategically is essential to keep, strengthen and extend brand value. Also in the case of company merges, going hand in hand with merging brands and products, consumers should be prepared and taken along with changes in design.

We can conclude that there are different approaches to create strong, brand related design. Examples show that there are evolutionary and revolutionary approaches, however, if we take examples of long-term successful products that became brands themselves we can notice that they were revolutionary at the beginning but evolved evolutionarily during a long-term period.

Proposition P 5. Strong, brand related design results from revolutionary innovations in the beginning and their evolutionary evolution.

Product design can be seen as an essential element of a brand. In this respect we can distinguish between brand identity, which describes the aimed for public appearance and brand image, the actual perception by the public that can be influenced by the company only indirectly (Esch et al. 2005). A brand identity must reflect the soul of brand, its visions and goals. Brand image refers to the past and is passive, while brand identity is active, looks into the future and reflects the associations sought with the brand (Aaker 1996). In this respect, also styles appear relevant, they can occur as corporate or brand names, visual symbols, slogans, jingles or as a combination of all these elements and thus generate a sensory imagery (Schmitt and Mangold 2005). Between such brand relevant media a content-related and a formal integration appears necessary, which means, that the content-related statement and the visual appearance, which includes product design should be coherent. Every contact must support intended brand identity and brand image (Ruge 2005).

It is supposed that aesthetic impressions rather refer to the complete form of a product than to the sum of individual items (Bloch 1995). In this respect design theories assume, that recipients concentrate and organize perception, according to “constitutive” elements like colours, textures or surfaces and then hierarchically reorder perception in less complex structures. Studies about unconscious preference formation have shown that abstract, more dimensional design-characteristics can be constituted by elementary and measurable design elements. From these design elements, complex components or constructs are combined, which are cumulated during the process of perception and finally convey certain brand-characteristics to the customer (Orth and Malkewitz 2008). Accordingly, different possibilities of how products can convey messages to consumers are proposed: Styling, functionality but also its emotional and symbolic value, respective meaning. While functionality is rather utilitarian the meanings of products send messages, attract affective or sociocultural needs. Meanings can be created by applying a design language consisting of a specific arrangement and the use of icons, symbols or styles (Verganti 2008). By doing so, design can transmit brand values to consumers und thus be understood as a visual realization of marketing (Bruce and Daly 2007); examples of companies like HILTI with emotion-driven consumers support this understanding. Here design is regarded as the most important non-verbal instrument for communication, regardless if it is about a new nail or a drilling machine (Bialek 2010, WWW).

If we combine these approaches we can assume that, in a figurative sense, all elements of the marketing mix must speak the same language in order to take advantage of the leverage resulting from a brand. This seems to be relevant particularly for product design, as objects respective products can be understood as a specific arrangement of individual elements that lead to holistic and complete impressions. Every single element of a product should embody and communicate offers, values and statements of a brand and consequently lead to a very distinctive and strong, brand related multidimensional message. Similarly to the creation of a brand image the creator respective designer can influence a product’s public perception respective image only indirectly, e.g. by composing single elements to an

intended whole; the actual judgement concerning the object, however, depends on the recipients.

Proposition P 6. Strong, brand related design is a multi-dimensional brand message, consisting of an individual composition of individual brand relevant elements.

DIFFERENTIATION

To differentiate products or brands many possibilities are relevant, beginning with quality or performance aspects, ending with distinguishing elements like humour.

Yet the most obvious and significant distinctive aspects seem to refer to visual impressions; thus in an economic environment with increasing competition and growing technological similarity, product design plays one of the most important roles to differentiate products or brands from competitors. It can be noticed that in recent years, design has been ascribed increasing importance concerning positioning, differentiating and brand equity; product design evolved to an important pillar in the development processes of many firms (Veryzer and Borja de Mozota 2005). But not only designers are aware of product design as a key differentiation factor; also managers and marketers assign a significant role to design concerning the creation of competitive advantage: For Luca de Meo, head of marketing at Volkswagen, product design is very important and often the most important reason for buying (Ostmann 2010), and if we relate aesthetics with design, there are many examples how aesthetics can serve as a differentiator: Cathay Pacific, Starbucks, Nike or Bionade illustrate that even in saturated, mature markets companies can be successful by the stringent use of aesthetics and emotional closeness to consumers (Schmitt and Simonson 2005).

As today products are getting more and more equal, concerning technological criteria as performance or quality the use of design as an effective brand-relevant differentiation factor gets a central role. While technological characteristics like fuel consumption, power or other technical data must be communicated by brochures or

dealers, design as an obvious attribute can be experienced or observed immediately and without any explanation. By means of design brand relevant or even certain technological attributes can be communicated quickly.

Proposition P 7. Design is an important and effective means to differentiate brands and products.

Concerning the communication of brand value, product design itself can be regarded as a distinctive element among other channels, such as e.g. advertising or technological innovation. Applied together these channels can lead to a powerful associative mix which creates a distinctive and holistic brand impression. In product design individual, but also general design features contribute to create a brand message, identity and perception (Karjalainen and Snelders 2010). Beside the understanding of design as one brand value communicating element out of others, the form of a product consists of several selected individual elements, which are combined by designers to a whole in order to achieve certain sensory effects (Bloch 1995), which can be decoded, categorized and positioned by consumers relative to competitors (Radford and Bloch 2011). Complementary three perceptual dimensions proposed. Aesthetic impressions, which refer to characteristics that appear attractive or beautiful to recipients, semantic interpretations that convey messages concerning the quality, use or function of the product and symbolic associations transmitting e.g. social or status related information about the user or owner (Chou 2011). A goal in this respect is, that brand name, trademarks and product or packaging design have characteristics that enable a quick distinction of brands. This discrimination ability can be achieved by forms, colours or other concise characteristics, as well as by the meaning of the brand name. Examples of a distinctive uniqueness with a high degree of recognition are unique product-packages like those of Odol, WC-Ente, Coca-Cola or Underberg (Esch and Langer 2005).

To conclude, product design itself can be seen as a brand distinctive element among others like advertising. However, product design itself can be understood as a combination of different characteristics which can evoke specific brand messages. If we “dissect” objects, we can divide them into different distinctive elements respective

levels like colours, shapes, graphics, icons and others. Each of these levels can already be very distinctive quite by itself. If a company active in a conservative branch, where the dominating corporate colour among competitors is blue, uses the corporate colour magenta, products in magenta could clearly and immediately be assigned with this company, although on other levels the products might look similar. If other elements like shapes or icons were be as distinctive as the colour magenta, the whole composition would be even more distinctive, unique and furthermore offer a strong copy protection. Just colouring cables in white, instead of black led in the case of Apple already to a strong distinctive brand relevant characteristic. Compared to other computer manufacturers, Apple even designs the plugs and cables individually, consequently and to the smallest detail. Accordingly we propose to dissect objects into as many distinctive and unique elements as possible and to charge them with individual brand value.

Proposition P 8. Distinctive, brand-related product design is based on the accumulation of many individual and unique brand-specific design levels and characteristics.

ADDED VALUE

Design can contribute to the creation of added value in different ways. It can create financial added value, for example by reducing manufacturing costs or by selling products at higher prices due to attractive design; design can also contribute to reduce depreciation of products like in the case of furniture designed by Charles and Ray Eames or Philippe Starck. Additionally design can create added value for consumers regarding ergonomics or safety, but also due to the communication of status or by just feeling good during its use.

Design can be a strong lever to increase attractiveness and value of products compared to its costs. Referring to Karlheinz Bauer (2010, keynote-speech), Director Design for Creative Management and Operations at Mercedes-Benz, the factor design with Mercedes-Benz is responsible for only 2.7 % of the total development costs. According to Gert Hildebrand, former chief designer at MINI, design marks 80% of the

reason for the decision to buy a MINI Cooper, while the costs of the design development, compared to the total development costs are marginal (Kuhn 2007). Yet, design that is not appropriate can lead to negative effects. The concept of Siemens' mobile phone series "Xelibri" was to understand the product rather as a fashion accessory than as a versatile communication device. The funky designed objects were originally high priced but not accepted by consumers and finally had to be sold off cheap; figures of a loss of € 70-80 million made the round (Herr 2012, WWW). Beside the financial risk due to ineffective design, these examples illustrate the tremendous financial leverage that can be created by a successful product design, compared to costs e.g. of advertising campaigns or sponsoring they appear marginal. Furthermore different kinds of product benefits can be communicated due to a specific form and thus influence evaluations concerning the function of features; consumers understand product benefits faster when the design underlines, illustrates and communicates the respective characteristics. Product design can even amplify the effects of functional benefits; consumers might evaluate the performance of an object better than it is indeed (Hoegg and Alba 2011). In this respect utilitarian benefits, like functional performance and hedonic benefits, like design or a luxury ambience can be distinguished. Products, which exceed or fulfil utilitarian needs, lead to consumer satisfaction, however, products that exceed or fulfil hedonic needs trigger higher levels of arousal and thus are supposed to be more effective (Chitturi et al. 2008).

It can be supposed that, according to the product's design value in relation to its price, consumers form an image and prefer the products, which offer the highest value for the money (Kotler and Rath 1984); aesthetic product design can be a source of joy for the consumer and is seen as an important aspect of product development, marketing strategy, differentiation and thus also contributes to the creation of competitive advantage (Veryzer and Hutchinson 1998); customers do not buy technologies or product attributes, but rather feelings, values and end benefits (Durgee et al. 1996). Accordingly, these days the task of designers is increasingly to develop ideas according to the needs and desires of the consumers. Design is more and more getting a strategic and marketing-relevant function leading to new areas within the value creation (Brown 2008); design significantly influences a product's desirability, the appearance of the

parent brand and, due to its use, consumer satisfaction (Noble and Kumar 2011). Customer benefits and thus added value can derive from design, which offers sensory experiences that appeal to the sense of aesthetics and thus provide an attractive and exciting experience with the brand (Schmitt and Mangold 2005).

Has a woman, for instance, bought a luxury handbag and downright fallen in love with its details and design and the brand corresponds to her preferences, she will constantly enjoy using the handbag and presenting it to others. The emotional added value, coming from the design or styling, in the interaction with a strong brand, stands high above the basic benefit of a bag which, for instance, could also be fulfilled by a plastic carrier bag of ALDI. Thus emotional added value can be regarded also as sustainable: The customer will certainly strive again to buy such or a similar handbag, because the positive emotions will stay in the memory for a long time and the consumer can try to refresh, to keep or to increase these positive emotions aroused by the use of the handbag. This can also concern other products like a watch, which is stored in a bank vault and looked at and enjoyed only once a year.

Many decisions and behaviour patterns can be traced back to basic human needs. It can be assumed that the satisfaction of social, physical or other needs such as recognition, success, security, freedom, mobility, health, sexuality or communication can generate successful business models and products. A design should be developed in way to fulfil specific basic needs in an optimal way. Innumerable alternatives can achieve this task, but innumerable alternatives can also fail. As basic needs seem to be depth psychologically anchored in humans, their fulfilment is a constant factor. We can suppose that basic needs stay the same during the development of humanity, but the solutions for their satisfaction alter. The desire for communication is timeless; its solution has evolved from e.g. public laundries where gossips were exchanged to social networks or mobile communication devices. If we understand the fulfilment of e.g. the basic need for communication as added value, today various products and solutions inhere a corresponding offer, starting with community activities like get-togethers to technical communication devices such as telephones or computers.

Added value in this respect is not just about purely technical solutions but also about holistic ideas like social networks, search engines or other communication and knowledge platforms based on the Internet. Google, Facebook, Xing, Twitter, YouTube, Msn or Apple are just some examples of successful and holistic communication solutions. However, design can also contribute to create the added value “communication”. In a conversation with the author of this dissertation research, Johann Friedrich Engel, former managing director and inventor of the Robinson-Club and the club ship AIDA, described that it was always very important for him to take human basic needs and thus added value into account when developing new products. This is why in Robinson-Clubs the paths have been created deliberately so narrow that two persons cannot pass each other without greeting or saying a word. In this way, an unconscious act of communication between two people is caused, with the goal of creating a relaxed atmosphere. Similarly, the bar of the club ship AIDA was designed in a star-shaped way that guests are forced to sit facing each other. Guests who feel uncomfortable with this arrangement leave the bar automatically with the result that particularly like-minded and communicative people stay and get into conversation easily.

However, design can also create added value for producers and consumers in the area of capital goods, beginning with improved technological solutions or ergonomics, but also regarding the visualization of specific product benefits; an attractive design can also increase the working motivation of employees: If they are proud to operate a “cool” truck or forklift, instead of ugly machines. In a brand relevant context design can create added value in so far that consumers enjoy to use a specific design because on the one hand it is aesthetically appealing, but on the other hand it serves as a social marker to follow or differ from certain social groups. Design can contribute to communicate a functional benefit of a product and thus support producers and sellers to promote specific advantages of their products, and it can help consumers to communicate superior performance of their products to others.

Proposition P 9. Design is an effective and sustainable means to create and communicate added value for consumers and manufacturers.

PRICE

Concerning capital goods it is assumed that product aesthetics can pay off regarding sales performance and affect people, in contact with the product (Yamamoto and Lambert 1994). Industrial design can communicate a company's values like product integrity or quality and thus be a competitive tool. A business partner of the author quoted the US marketing director of a global leading manufacturer of commercial vehicles, who mentioned that certain vehicles with the same quality and performance can achieve a 10% higher price, only due to the attractive appearance of the product. Another business partner of the author said that 80% of his tractor buyers additionally order polished stainless steel exhaust pipes, despite the additional price of about 2000 € and no further functional benefit. There are examples like car manufacturer Audi or Apple, where design contributes to the impression of increased perceived quality and thus to the possibility to justify higher prices.

As already mentioned, consumers seem to rather purchase aesthetically more appealing products when other parameters like price or quality are the same. Examples show, that consumers are willing to pay a higher purchase price when they prefer a product due to aesthetically appealing design, although rather objective parameters like quality or functional performance are equal. This is of significance concerning products with a high degree of design integration like consumer goods, e.g. fashion, furniture or cutlery. Nevertheless, also the willingness to pay a certain price in the case of capital goods is subject to design preferences.

Proposition P 10. Design can enhance the willingness of consumers to pay higher prices.

FUNCTION AND MEANING

“People buy things not only for what they can do, but also for what they mean” (Levy 1959, p.118). Functional design can be described as an aggregate of factors, benefits and attributes that provide utility. There are functions, which are most common in a specific market at a certain time and lead to a dominantly appearing design. Form can

be understood as structural product attributes, which provide an architecture to convey functional product features. It is the hedonic element of design: Through the use of symbols and meanings it can strategically influence consumer preference and emphasize or hide certain product characteristics (Townsend et al. 2011). The functions of design seem to evolve increasingly from rather technically to emotionally oriented functions; in the context of brand relevant design, the term "function" is considered from a new rather emotional and meaning oriented perspective. There are various functions an object can imply: To attract consumers, to increase self-confidence, to convey certain messages, to support brand value and more. The evolution of the philosophy „form follows function“ to the need oriented principle „form follows emotion“ by Hartmut Esslinger can be seen as the base of this approach (Frogdesign 2010, WWW). In this respect Krippendorff (1989, p.15) suggests to substitute the term "function" and posits the philosophy "form follows meaning" which refers to effects of objects and illuminates what originally intended forms actually mean for consumers.

Form follows Function; this philosophy was almost dogmatically represented and defended by some representatives of the famous German design schools Bauhaus and HfG Ulm. Until today, this idea influences many aspects of product design. A product that does not meet its most basic functions will hardly have any chance on the market, a beautifully designed computer is not useful at all, if it is constantly crashing. A dynamic-looking sports car is unattractive to consumers if it is not faster than a middle class car. According to industry or product the significance of functional aspects can be totally different. In the capital goods sector e.g. ergonomic aspects are of high importance, safety or efficiency are criteria influencing purchase decisions. Technological aspects are also of importance in car design, for instance with regard to legal requirements or performance. Yet, compromises are often made in favour of styling; for instance aerodynamic aspects are often rather subordinated to aesthetical aspects. Initially most cars are rather designed regarding attractive features and only later optimized in the wind tunnel to achieve acceptable aerodynamic results.

We can assume that the philosophy “form follows function” is valid, but from a rather holistic point of view, which does not refer only to technical, performance oriented parameters. It is important to be aware of the true features a product must comply, like to evoke attention and delight or transmit brand messages. The purpose of seating furniture for instance is first of all to sit comfortably. Yet, there are also many seats that are rather used as a decorative object or sculpture; here it does not matter if the furniture is comfortable or not. A similar example of different product functions is Philippe Starck’s famous juicer “Juicy Salif” which, in contrast to highly functional electric juicers by Braun, meets another function than pressing juice, namely representing a decorative sculpture. Which juicer design is finally better is relative to its intended use. Also in clothing there are on the one hand products like outdoor or work clothes, which refer to parameters like protection or performance; lingerie on the other hand, cannot be regarded as functional in the sense of comfortable wearing, but it can have other functions, as e.g. seduction.

There are many products whose function is less technological but communicate certain messages, like in terms of social affiliation and status. These can include watches, cars, handbags, shoes or technical equipment. To interact with others, consumers can apply products in different manners. First, the kind of product used sends a specific message to others: Wearing a polo shirt of Lacoste sends messages concerning social or professional status: People working as bank managers normally don’t wear polo shirts at work while designers do. On the other hand, also the ways products are used imply different messages. In the case of polo shirts there are different meanings: If a consumer wears the polo inside or outside the trousers or the collar stands up or down; also the colour of the polo shirt emits certain messages. Another example of an individually adjustable product is BMW’s concept car GINA, which can adapt its appearance respective personality and thus interact with others by changing its facial expression and gesture.

Meanings of design refer to an object’s visual statement but also to the way objects are used. A composition of symbols or icons can lead to new meanings, but also existing products can be used for other tasks than originally intended: A bottle can

become a vase, airplane wings can become tables and sports shoes can be worn in combination with suits. But also according to their functional use products should communicate relevant messages: Construction machines should look robust and not fragile, luxury bags should communicate exclusivity and not look cheap.

A designer might create the basis for a product like e.g. a car which changes social status, causes a commitment to a certain tradition or evokes something else, although he just intended an artefact as a means for transportation (Krippendorff 1989).

However the development from an industrial society to a knowledge society also means changing the meanings of brands and products. In the past, products like cars were long time symbols of immaterial values such as success and prosperity. Today increasingly goods or products are no more crucial, but the way they are used, which goals and meanings are pursued by their use (Lotter 2010).

Marking affiliation with one group also means excluding affiliation with other groups; objects, which symbolize membership must also serve as distinguishing features towards groups that e.g. are not privileged, able to afford or entitled to use these symbols. This process of differentiation or integration is relevant for most cultures. What is different are the artefacts to communicate status and rank people. Designers must take social dynamics into account: Objects that have been designed for a certain social group may also contain symbols of integration for another social group. High-status products that are easily accessible for low-status consumers may lead to different results another than intended, accompanied by a loss of social motivation for purchase or use. This is particularly of significance concerning trade-offs between interests to produce large numbers of identical products and distinguishing symbols (Krippendorff 1989).

But there are also form characteristics associated with category specific attributes. Street and off-road motorbikes e.g. can be recognized according to certain style characteristics of which surface is one (Karjalainen and Snelders 2010).

People categorize their counterparts according to social icons like haircut; form of glasses or clothes they wear and to physiognomic parameters like size or face shape. The first impression counts and is made within a fraction of a second. What is relevant for the interaction between people is also important for the relationship between consumers and products.

Respective the design of products, stimuli referring to universally valid characteristics and meanings can be applied to evoke rather general associations. For example, applying rather soft or sharp forms evoke similar associations among different recipients, while on the other hand cultural or brand related stimuli could evoke associations only with a specific group of informed, interested or experienced consumers. Accordingly, design can attract new consumers due to rather universally valid meanings but also send insider information and thus create a “conspiratorial” relationship with interested consumers.

Conversely, certain brand-products can be understood as social “admission tickets”, that are necessary to gain acceptance and recognition in a certain milieu. In this respect it is important to position the signals correctly, which are to be communicated to third parties. Beginning with the placement and the size of the trademark over the use of specific colours or details up to the formal language.

An essential distinguishing feature of a Louis Vuitton bag is the colour and the pattern of the bag, which is already recognizable from long distances. In contrast, there are high quality luxury bags that only a relatively small and exclusive number of people know and whose highest priority is maximum manufacturing quality, in accordance with highest understatement. Consequently the product design should help consumers to communicate their self-image perfectly.

Proposition P 11. An important function of design in a brand relevant context is to communicate messages.

Emotion, motivation and attitude seem to result from a complex interaction of the functions of different brain centres; the following terms refer to by processes inner characterized impulses and are based on each other: Motivation includes emotion;

attitude includes motivation. Emotion, motivation and attitude, can be explained with the example of somebody who likes to travel fast: From an emotional point of view, the person feels well when driving a fast car; even thinking about a fast car evokes positive feelings like pleasure. Emotions are regarded as a subjective experience of inner conditions, however, it is difficult to express these feelings verbally. Motivation describes a goal and task oriented action-consciousness: The person always tries to travel with any means of fast transportation and, according to this attitude, situations, which support fast travelling will be evaluated positively. Attitudes are object-related and an assessment of the surroundings. Emotions are turned towards the inside, motivations towards an action and attitudes towards the objects (Kroeber-Riel et al. 2009). In decision-situations emotions can significantly contribute to the assessment of objects; emotional “knowledge” drives our assessments in the interplay of feelings and rationality. Thinking seems to go hand in hand with emotions; when messages address the intellect but don’t evoke emotions with consumers, they can be repeated a hundred times and will still be ignored (Kroeber-Riel et al. 2009). Similarly the visual imagery of products marks a first contact with consumers and an opportunity to form an impression of the consumer (Noble and Kumar 2011), correspondingly consumers perceive products visually before purchasing them; the visual impression is first, the physical performance second (Radford and Bloch 2011).

The stronger a positive psychological reaction is concerning the shape of a product, the stronger is the tendency to approach the product. Conversely, the product will be avoided, if there is a negative attitude concerning the shape (Bloch 1995). Complementarily purchases can be a pleasure evoking action. They are often based on the satisfaction of aims, feelings, desires or circumstances, which refer, e.g. to convenience, social pressure or advertising: Not needing something, but wanting or liking it (Levy 1959). Examples like fashion or jewellery show that in the case of many products utilitarian criteria are of minor importance; although in most countries exist speed limits, consumers buy and adore sports cars like Porsches, despite the fact that they are rather narrow, uncomfortable and expensive. However, such cars provide a special spirit of sportiness, wealth and superiority, which conventional automobiles like a Volkswagen cannot offer (Krippendorff 1989).

Beside basic ergonomic or functional aspects, design should -colloquially speaking- touch the hearts of the people and evoke positive experiences and enjoyment with the product and by its use. Of course technical, practical and functional criteria are of high importance. But if consumers are convinced of a product emotionally the significance of reasonable attributes diminishes. Everybody knows that quartz watches are more precise than mechanic watches, polycarbonate suitcases are more rugged compared to leather luggage and flat shoes are more comfortable than pumps: But it is about pleasure, these examples illustrate that people buy goods despite or because of alleged disadvantages: A suitcase might evoke prestige related emotions, particularly due to the use of delicate leather. Thus, it would make sense to emphasize the use of such special leather instead of referring to any functional or rugged characteristics respective disadvantages. A product, no matter how reasonable it is, no matter how many rational arguments it implies; if it is not emotionally attractive, it will not be loved.

Products and brands can also evoke emotions and reactions of different kind in people who are not directly involved. Positive reactions of third parties and social acceptance of certain products and brands can influence purchase decisions of consumers. It can be assumed that positive experiences with a product can arise already in advance of a consume-situation: Due to advertising, or the creation of experience worlds, arousal of needs, interests and expectations concerning a product can be evoked. In an actual encounter of the consumer with the product, further experiences and emotions of various kinds can be triggered, settings can be confirmed, reinforced, but also disappointed.

For product design this means that addressing emotions and evoking positive feelings with consumers can be the base for a long-term brand-customer relationship, even overlooking possible functional disadvantages. Typically, products are purchased based on antecedent expectations concerning the fulfilment of a consumer's goals. Post-consumption emotions are caused by a perceived discrepancy between the expectations and the actual performance. This means for design that the fulfilment of

technological parameters is an absolute prerequisite, but the fulfilment of hedonistic desires leads to incomparably stronger effects touching the consumers' emotions.

Proposition P 12. Design, which creates positive emotions with consumers can lead to strong and sustainable brand-customer relationships.

In the case of design, technological functions are taken for granted. Beside exceptions, products are rejected when they don't fulfil these conditions. Nevertheless design can contribute to underline and emphasize specific benefits of products by applying a certain style or design feature. It can be assumed that among most humans a large number of sensory perceptions evoke similar memories, associative links and similar ideas. As an example, children also learn based on negative experiences like injuries; thus, certain forms like sharp shapes or angles may be related with averting associations. Adults have learned to deal with such forms, but due childhood experiences they may have developed a subconscious, instinctive aversion concerning such forms, which may influence their evaluations (Domizlaff 2005). Such visual features equally by consumers attributed, like rounded forms or warm colours, leading e.g. to a friendly and protective appearance are described as complete attributes. However there are also forms containing complete attributes in a category specific context: Street and off-road motorbikes can be recognized due to specific style characteristics. Partial characteristics, on the other hand attract only a smaller group of specific recipients and are unrecognizable, respective not relevant for customers outside this group. Value-based design features are not limited to single products but can also be applied over a brand's entire product line or product portfolio (Karjalainen and Snelders 2010). In the case of logos it is found that perceptual effects of concrete visual stimuli are superior to abstract brand signs (Esch and Langner 2005a). Complementing these findings, to develop an intended semantically characterized product design, it is not about considering functional features but rather about taking cognitive models into account that derive from metaphors, metonyms or practice. Forms must fit and be interpretable to cognitive models, which provide a safe and socially desired use (Krippendorff 1989). Correspondingly, a specific product design can convey messages concerning functional performance. Product design can influence judgements concerning feature function and even modify objective functionality

features, additionally, a product that communicates a specific functionality reaches the consumer earlier and more effectively compared to e.g. written descriptions. A visually communicated functional performance can even “overwrite” a deviating written, objective description of the performance (Hoegg and Alba 2011). As an example, a forklift is able to lift a load of two tons and this objective information is also written in a brochure or product description. If the forklift looks too weak to lift two tons, the significance and effectiveness of the written information diminishes. On the other hand a powerful designed forklift can support its technological benefit.

In a brand and design specific context this means that product design can contribute to categorize and evoke specific associations concerning the meaning, benefits and use of products. If a brand intends to evoke a rather aggressive and loud or dynamic brand image, edgy shapes and extroverted colours like the motorbike manufacturer KTM applies could support such an approach and support categorization according to brand or product use. It makes sense to visualize and communicate functional benefits of products in a way that consumers can draw conclusions from a specific design and understand benefits easily and fast. We assume that non-abstract objects communicate concrete meanings stronger and convey messages better to consumers. If we designed a new tractor for the brand Porsche, it could make sense to design the hood in a powerful and maybe curved way in order to communicate power and robustness, and with the round shapes a friendly appearance referring to the Porsche genes.

By applying rather concrete links that refer to social, cultural, brand or product relevant schemes, meanings can be created also concerning a certain type of luxury products. The application and combination of materials like gold or diamonds, logos and other characteristics can be an “instruction for social use”; and excludes certain customers from using the product, not only due to price, but also due to the taste: Not everybody likes golden watches with diamonds.

Proposition P 13. Design contributes to categorize, use and assign products according to social, cultural and product relevant schemes.

The author of this dissertation research once accompanied a friend in his Ferrari Spider. When it started to rain, water ran through the closed soft-top and the driver had already some tissues ready to hand to clean the windows on the inside. He mentioned, if that had happened with his Mercedes-Benz, the car would be back at the dealer within ten minutes. But he deeply loves his beautiful F 355, and so he turns a blind eye to its leaking top and the fact that the engine has blown up one week after the guarantee had run out.

Purchases, uses or preferences of products do not indicate purely technically characterized and rational purchase decisions. Examples show that people deliberately and generously accept certain difficulties, disadvantages and inconveniences of products they admire. Uncomfortable and tight sports cars, unpractical but beautiful furniture or delicate but elegant clothes indicate the significance of product semantics. Product semantics contribute to economic success but are more than a marketing tool. They also refer to the whole, to how artefacts relate people with each other. They concern archetypes, mythologies or symbols deeply anchored in the collective unconscious (Krippendorff 1989).

There are further examples like Apple products that make e.g. the use of certain software impossible and create a monopoly situation concerning the interaction with other products. Many luxury watches are inferior to cheap digital watches concerning functions and performance. Clothes do not only serve to cover the body; many fashion articles are less comfortable to wear and difficult to clean, nevertheless consumers purchase them and consumers relate not only technical functions with them, but pleasure, self-confidence and social integration.

The goal should be to excite customers about products so that the interest for the product leads to a positive purchase-decision. If products and brands are emotionally so appealing and beautiful, functional and ergonomic disadvantages can possibly even be neutralized. Like, for instance, uncomfortable seating positions of furniture or not usable lemon squeezers. This can go so far that consumers defend "their" products aggressively, just like mothers defend their kids. An example in this respect are "radical" Apple-users, that spend nights in front of Apple-Stores, just to get some

products first, defend these products against any kinds of criticism, spend lots of time in user communities and develop even concepts of the enemy towards other user groups.

Proposition P 14. A product design that evokes positive emotions can neutralize disadvantages of a product.

PERSONALITY

Brand personality can be characterized as the total of human characteristics, associated with a brand. Compared to rather functional factors, brand personality is an added value that is based on the fact that consumers associate brands with specific human personality traits. As consumers humanize brands or products like e.g. M&M chocolate candies or Mr Clean the trademarks themselves can become celebrities or even historical figures in the consumer's mind. Also personality characteristics, of typical brand users or of employees can be projected directly onto the brand. It is assumed that brand personality contains, beside personality-characteristics demographic- or gender-specific attributes, as well as age or social class (Aaker 2005). This can be completed insofar as people can develop relationships with brands or products, similarly they develop relationships with human counterparts or animals. To legitimize brands as partners, they are personified, enlivened and humanized in all societies worldwide. In order to simplify the interaction with the non-material world, it is assumed in theories of animism, that there is a need, to give objects human characteristics to objects (Fournier 2005). People tend to associate products, and in particular cars with human characteristics. Visual characteristics of e.g. cars can be associated with human proportions. The relation and size of eyes, forehead or mouth compared to the arrangement of headlights, bonnet and grill of a car. These physiognomic ideals of beauty seem to be culturally and universally accepted among humans; according to specific proportions and characteristics people look aggressive, stupid or attractive and similarly cars or products do look so (Peters 2010, WWW; Rosenthal 1999).

That brand and design specific personality characteristics appear relevant, can be illustrated by examples like cars, which are often personified. They get nicknames or are characterized with terms like “sexy” or “phlegmatic”. A BMW looks “aggressive”, the “backside” of a Porsche is “crunchy”. Consumers identify themselves with certain brands and, to underline their striving for individual identities, they apply certain brands, which inhere similar personality characteristics. For example, people who intend to appear sporty or dynamic would probably rather buy a BMW instead of a Toyota. In this respect design can combine and apply certain personality relevant characteristics, which, on the one hand, refer to an intended brand identity, but also to intended images of people.

Proposition P 15. Design can contribute that consumers attribute certain "personality-building" characteristics to products.

CONTEXT

An object must have a form but must also make, respectively evoke sense to be understood and used. Like in geometry or physics the pure “objective” form of an object entails a description with no reference to a subject, whereas by contrast meaning entails reference to a subject’s cognitive process (Krippendorff 1989). The course of life with certain situations or objects constantly influences our worldview, preferences and attitudes. Based on the total of meanings we gain from innumerable contacts with objects of our environment, we create an individual image of our world. Humans approach such perceived phenomena under certain premises, which are based on a huge amount of individual life experiences and seem to determine the relationships of humans to reality (Watzlawick et al. 2007). Complementing this, the experience with every object of our environment is configured in a specific way by the human structure; it is only the basis to make “the object” which appears possible in our description possible. Due to this linking of experience with action, every cognitive act creates a world. „Jedes Tun ist Erkennen, und jedes Erkennen ist Tun (every action is recognition, and every recognition is action)“ (Maturana and Varela 1987, p.31).

If objects are not presented to subjects and have no context, they have no possibility to convey messages and establish experiences with action; thus they are meaningless and even not existent in the subject's world. Product design can only become effective when there is in an interaction with people. If a Ferrari stood in a part of the world where absolutely nobody lives and nobody knows about, the car would be an irrelevant object, a "dead" and meaningless mass of metal, leather and plastic. Thus, products can be only effective when they interact in any way with others.

Proposition P 16. Product design without contact to humans and context is meaningless.

To understand a system completely we must not observe it as a unity, but as an embedded element in its environment (Maturana and Varela 1987); artefacts are more and more of language-like kind and communicate manifold messages or signals. They can be combined in infinite variations and develop new meanings in various contexts and are differently reproducible by different subjects and situations. A knife e.g. means something different in the context of cutting bread than in the context of a robbery (Krippendorff 2011).

Accordingly, design should be evaluated in a context; the relationship between product form and psychological reactions, as well as between psychological and behavioural reactions towards the form seems to be determined by the perceived aesthetic fit between product form and other objects and parameters in the context. Interactions of objects with contexts influence also purchase decision: A consumer decides, despite great pleasure, not to buy an Italian coffee machine, because the style of the machine is not in harmony with its country-style kitchen (Bloch 1995). However, such context related aesthetic incongruities can lead -despite a positive attitude towards the product- to a refusal or on the other hand to the situation that consumers try to adapt the rest of the context to achieve aesthetical congruity (Patrick and Hagtvedt 2011), and this would mean, referring to the above-mentioned Italian coffee machine example to change the whole kitchen so that it fits the style of the coffee machine. In this respect Krippendorff (1989) proposes operational contexts that refer to subjects using objects, like sociolinguistic contexts where people communicate

through the application of specific items, contexts of genesis, which refer to the creation and consumption of objects, and ecological contexts that refer to the evolution technology and culture. Also time is a significant aspect concerning the evolution of contexts; in this respect the areas design and marketing both deal with the challenge to understand something not existing yet and to work with imaginary states (Kristensen and Grønhaug 2007).

For product design there are globally and culturally universal, understandable and acceptable form languages. However, concerning cross-cultural design we must act carefully. Regarding the cross-cultural transferability of brand personalities the dimensions of human personality seem to be equal in different cultures. But this is not necessarily valid for the brand personality; findings give reason to assume that effects of certain brands differ significantly among different cultures. In individualistic cultures, it is more likely that consumers use certain brands in order to be different from their surroundings while in collectivist cultures brands are used to express affiliation with groups (Aaker 2005). Also, identical objects can be used differently due to cultural surroundings: Although sidewalks can look the same in different cultures people have different associations. While in New York a sidewalk is a place to walk fast and jostling, in Jamaica a sidewalk can be a place to sit, communicate, play music or sleep. A sidewalk is a unit with a geometrical structure but also a realm of actions that are associated with it (Alexander 1979). Accordingly, companies adapt their products to specific cultural preferences. Cars, originally designed for the American market, are changed for the Chinese market in a way that they look more expensive to express the social status and wealth of their owners. The outward communication of potential richness and importance is crucial in this respect; understatement is a no-go (Rocks 2005). The company Shiseido, however, has successfully managed to overcome culture-related preferences and managed to create a unique brand culture by merging different, rather regional cultures, into a new company related culture. The basic idea was to create a product design, which appears European for Japanese people, but also Japanese for European people (Willenbrock 2010).

For design this means that products are evaluated according to contexts, which can be of different kind like culture, time, surroundings and more. Particularly time as a context relevant factor is important for design. On the one hand, according to a retrospective, referring to old styles tastes or heritage, but, on the other hand, design acts prospective: Decisions and creations, developed in the present, get relevant in the future, attitudes and preferences change, and also contexts do. Design, developed today will be perceived differently in the future. When Mercedes-Benz designed the S-Class W 140 in the mid 80s, the goal was to create the best car in the world. A massive 2.6 tons car with an engine power of up to 400 HP and a fuel consumption of about 20 litres was the result. But then conditions changed. After the German reunion there was an economical crisis in Germany, and the first gulf war increased petrol prizes. Consequently many German managers and entrepreneurs could not “afford” to drive a S-Class; not due to financial but due to social reasons.

Beside cultural, political and societal, also environmental contexts influence appearance and judgement of objects. A car appears totally different inside a separated design studio in comparison to its appearance on a sunny day along the coast. A Coke bottle appears differently in supermarket shelves than in a museum. Beside influences coming from the surroundings like light, architecture or distance, objects appear differently in different situations. A certain dress or colour is obligate in one situation while in another it appears totally inappropriate.

Objects are influenced by contexts but they also influence context significantly. This means, products appear differently according to parameters like light or space, but also to social parameters. If we take the example of a street lamp the lamp appears differently in the surroundings architecture; it is judged according to its energy consumption in the context of environmental awareness and others. On the other hand, the appearance of the street changes due to the installation of the lamps and thus influences its context. Communication devices like smartphones are judged according to their significance in a present context, but they also influence the communicative interaction among consumers and the way how consumers live their lives.

To conclude, we can state that design and its evaluation significantly depend on different kinds of contexts, vice versa design can also contribute to influence contexts.

Proposition P 17. Design is influenced by contexts and influences contexts vice versa.

BREAKING RULES

There are cognitive experiences that are aimed at the intellect of the customers and generate added value by animating the customers to engage themselves intellectually in a creative way with a brand, such as, for instance, by surprise, provocation or fascination (Schmitt and Mangold 2005). Referring to Berlyne, Kroeber-Riel et al. (2009) mention characteristics that are suitable to trigger activation purposefully. In this respect *Collated Stimuli*, which activate particularly due to novelty, diversity or surprise seem to be effective. Collated stimuli activate in so far as they infringe upon perceptual habits, as e.g. flying cars, smoking animals or constructions contradicting every physical reason. However, it must be noticed that such stimuli can wear off quickly because they have a surprising effect only during the first contacts and seem to be hardly useful concerning a long-term oriented design (Esch and Langner 2005). Transferred on product design it can be assumed that surprising, novel design can be effective in a brand relevant context. Supporting this, Peter Schreyer, head of design at Kia and former chief designer at VW and Audi, is of the opinion that from time to time there must be a revolution in design (Godau and Polster 2000). Complementary fashion designer Gabriele Strehle states that beauty means clarity and pureness; beautiful objects can be uneven, and must not be perfect or hide anything: „Jedes gute Design braucht einen Bruch (Every good design needs a break)“ (Hensel 2010, p.1 WWW). Similarly, a brand identity should not accept existing perceptions, but rather be willing to promote and take changes into account (Aaker 1996).

Design newness can contribute to trigger or ease the adoption process and address consumer needs and values; a high level of divergence from existing products leads to a high level of attention with subjects. Product design that is incongruent compared to preceding products in a specific category may lead to an increased interest in the

product and stimulate subjects to explore and resolve the product's incongruity. Novel design can also be regarded as means to fulfil consumer needs or desires like the expression of achievement, status, affiliation or variety seeking (Talke et al. 2009). However it is assumed that breaks and novelty should not be too extreme, accordingly people seem to prefer a moderately pronounced level of arousal, which is described by the so-called Wundt curve. This inverted U function posits that products, which have a balanced degree of irregularity and disorder, are the most preferred by the consumers (Bloch 1995). If consumers are confronted with a new product, they may try to find reference points in design elements like materials or shape. It is a challenge to manage the conflict between the consumers' desires for visual product newness, on the one hand and to sustain a brand-consistent style on the other hand (Radford and Bloch 2011). To find the optimum balance between continuity and renewal is difficult, the development of a brand takes time. To establish clear memory structures, a long-term constancy of marketing efforts is required. On the other hand, needs and trends of an increasingly fast-paced society must be satisfied (Esch et al. 2005a).

All levels or aspects regarding product design are suitable to break rules. Breaking the rules means to deviate from known schemes, to create frictions and to make the opposite of what laws dictate, to be the antonym of a rule. If we recommend e.g. symmetry or unity as elements that contribute to aesthetic products, breaking the rules would mean asymmetry or disarray. Concerning brand value a break of rules would e.g. mean to avoid applying brand relevant icons or symbols at all. The result could be to create a unique brand with the distinctive characteristic to be recognizable despite not applying brand logos or names. Another idea to break rules could be to apply asymmetrical shapes or an unusual colour combination.

Surprise and break of rules by design seem to affect consumers. Details, which at first appear to be surprising, animate the consumer to deal with the product. This could be the exceptional buckle of a handbag referring to the design of airplane seatbelts or a shampoo bottle for children, that looks like a teether, but also the possibility for the consumer, to interact with his favourite brand, e.g. by producing individual shoes with his monogram. There are product designs offering -similar to paintings- every time

consumers look at them new perspectives and surprising details they didn't notice before. These could be specific shapes, symbols or other elements. Using rather timeless and universal schemes like childlike characteristics could balance breaks in the design and thus contribute to sustainable emotional value.

To sustain positive emotions with a product design it is also important to keep emotional promises. This means that consumers should not be disappointed e.g. by suddenly changing the brand identity or communicative messages and thus possibly the reasons why consumers purchased a product. Companies should regularly pay into the "emotional" account of products or brands, for example by advertising or events.

Even if all rather objective criteria –like symmetry- that are supposed to lead to good design are met, this does not mean that the design is successful or attractive. Nevertheless, too much uniformly executed design might lead to boredom at the expense of diversity. In contrast, by the skilful use of novelty, variety and complexity, activation can be triggered. Herein lies a fine line between boredom and over-complexity (over-styling).

In this regard we recommend paying attention not to break rules extensively; consumers should be positively attracted by design frictions but not scared. Conservative consumers may have a lower tolerance level concerning the break of rules compared to rather progressive customers. Rules should not be broken purely for their own sake, and they should not be broken on too many levels: An asymmetrical product with extreme proportions, not matching colours, extremely deviating from schemes, will most probably be perceived as ugly and consequently rejected by consumers. For design, we propose to apply deviations and break of rules purposefully and carefully according to the product and target group.

Proposition P 18. A design that moderately "breaks rules" can increase the attractiveness of a product.

Proposition P 19. A design that moderately "breaks rules" can contribute to the differentiation of a product and brand.

INTEGRATION

In 2009 the newspaper “Bild” asked their readers under the motto “Bild Dir Deine Werbung (form your ad)” to design a campaign. Within three weeks, more than 10.000 proposals were sent to the editorial staff; the best six ideas were realized. Chief editor Kai Diekmann described this campaign as democracy of creativity and mentioned the side effect, that the readers are even more involved with “Bild” (Marinovic 2010). More and more potential consumers are asked to participate in certain actions, like the brand Burberry: Everyone, from the German student up to the Asian art director could participate in a Burberry photo competition and contribute to design fashion. In this respect the Internet is gaining importance as a communicative, participatory and anticipatory medium (Ströbele 2010).

The integration of consumers in product development processes is getting increasingly significant; an early and direct interaction can contribute to a better understanding and acceptance of innovation, accelerate product launches and provide insights in customer desires and needs (Burmeister and Loh 2009). Some companies go so far, that they let their consumers decide democratically on future products. Threadless, a fashion start-up company from Chicago presents weekly new t-shirt designs and asks its user-community, to evaluate their current designs. The best rated design proposals go into production. The Japanese consumer goods manufacturer Muji acts similarly. Muji invites passionate customers to evaluate the attractiveness of new product concepts. Only concepts that can show significant pre-orders go into production. There are similar examples in the food industry, where consumers can decide new flavours or the colour of new chocolate candies. It was found out that customers participating in the product design decision process demand the resulting end products stronger and are even willing to pay up to 50% more for the product compared to persons who were not involved (Fuchs et al. 2010).

Another area of consumer integration in product development processes is open source design. Everybody can contribute with his design, which can be developed further and evaluated by other participants. For the first time a complete vehicle has

been developed based on open source design by the start-up company "Local-Motors". Design, market research and design have been completely taken over by an Internet community. The users could pick their favourite from more than 60.000 submitted design proposals; within two years a completely new automobile was developed. The development progress can be accompanied in real time and each of the 6400 registered users may evolve the designs and ideas online. Thus Local Motors can work without a large number of sales professionals, engineers and automotive designers. Currently the plan is to produce the vehicle in decentralized, small and local micro factories and to use cost efficient mass production components. The long-term goal is, following the example of Nike to outsource the production completely and to deal only with the implementation of the community design and marketing (Hillenbrand 2010, WWW).

When you create something together, this can lead to different kinds of relationships; not only regarding the created object but also between the involved persons or organizations. Transferred on the design of products, this could mean that the relationships with the created products, but also other co-designers, the brand and the manufacturer could become closer and more sustainable compared to rather anonymous products.

Concerning the design of products and the development of technological possibilities due to Web 2.0, there seem to be various possibilities how consumers can contribute to create individual brand relevant design, but also to find out more about their preferences in a brand and design relevant context. In this respect consumer integration could also help to diminish potential gaps between brand identity and brand image.

Proposition P 20. The integration of consumers in design processes can improve the relationships between consumer and brand.

Table 2 propositions

Dimensions	Propositions
Perception	Proposition P 1: Design can affect universally valid schemes.
	Proposition P 2: Consumers perceive design individually due to physiological, psychological, cultural and social settings.
Brand	Proposition P 3: Designs and brands are mutually dependent and can hardly be evaluated independently.
	Proposition P 4: A design that uses a weak brand can reach significantly higher prices when it applies to a strong brand.
	Proposition P 5: Strong, brand related design results from revolutionary innovations in the beginning and their evolutionary evolution.
	Proposition P 6: Strong, brand related design is a multi-dimensional brand message, consisting of an individual composition of individual brand relevant elements.
Differentiation	Proposition P 7: Design is an important and effective means to differentiate brands and products.
	Proposition P 8: Distinctive, brand-related product design is based on the accumulation of many individual and unique brand-specific design levels and characteristics.
Added Value	Proposition P 9: Design is an effective and sustainable means to create and communicate added value for consumers and manufacturers.
Price	Proposition P 10: Design can enhance the willingness of consumers to pay higher prices.
Function and Meaning	Proposition P 11: An important function of design in a brand relevant context is to communicate messages.
	Proposition P 12: Design, which creates positive emotions with consumers can lead to strong and sustainable brand-customer relationships.
	Proposition P 13: Design contributes to categorize, use and assign products according to social, cultural and product relevant schemes.
	Proposition P 14: A product design that evokes positive emotions can neutralize disadvantages of a product.
Personality	Proposition P 15: Design can contribute that consumers attribute certain "personality-building" characteristics to products.

Dimensions	Propositions
Context	Proposition P 16: Product design without contact to humans and context is meaningless.
	Proposition P 17: Design is influenced by contexts and influences contexts vice versa.
Breaking Rules	Proposition P 18: A design that moderately "breaks rules" can increase the attractiveness of a product.
	Proposition P 19: A design that moderately "breaks rules" can contribute to the differentiation of a product and brand.
Integration	Proposition P 20: The integration of consumers in design processes can improve the relationships between consumer and brand.

4.3 CONCLUSION AND DEFINITION OF BRAND FORMATIVE DESIGN

The concept of marketing innovativeness moves away from the common attitude of individual instrumental innovations, like new pricing systems or product packages; it is rather important to consider the marketing-mix holistically. Marketing innovativeness is conceptualized not project-related but company related and is understood as a strategic, dynamic competence, which limits the imitability of marketing resources and possibly increases the loyalty of customers. It leads to an improvement of the perceived product quality, enhances relationships with trading partners as well as creates new marketing competencies. The three overarching characteristics for marketing innovation are "deviation from routines", "creativity" and "divergence" (Beinert and Diller 2009).

If we put the concept of marketing innovativeness in relation to design, it can be noted that the holistic approach to "Brand Formative Design" postulated by the author of this dissertation research is a similar concept. On the one hand, Brand Formative Design can be understood as a dynamic element of marketing innovativeness, on the other hand we can put Brand Formative Design into the context of the above postulated characteristics. Thus "deviation from routines", "creativity" and "divergence" are essential characteristics to develop surprising and long term successful Brand Formative Design. Yet, concerning design "deviation from routines" should not mean to completely reinvent products or throw established brand value overboard with every new product-development. It is important to control and optimize design details, but it is also important to have a holistic vision and strategy, what goals and ideas you want to reach with the support of Brand Formative Design. Integrated and multidisciplinary thinking is of importance. Product innovation can be much more effective and wide-ranging, if it does not refer only to styling relevant or technical innovation, but occurs holistically.

In the past design was widely related to rather technological aspects, particularly to the statement "form follows function". However these days, aspects referring to

technological functions are widely seen as basic prerequisites and design is more and more seen in a marketing and brand relevant context.

If we look at the above-mentioned propositions concerning design, we can conclude that in the context of brand formative effects, design forms brand relevant meanings and contributes to the creation of distinctive characteristics, added value, and influences willingness to pay. Brand Formative Design refers, on the one hand, to universally valid aspects, but it is also perceived individually due to physiological, psychological, cultural and social parameters.

Design developed in the past and present effects and forms the future. Brand Formative Design is a three-dimensional communicative means and not a discipline *following* anything but rather *integrating* and *creating* feelings, emotions, associations or wants with consumers. Brand Formative Design is about structuring, referring to and also deviating from schemes or known patterns, integrating consumers and taking contexts into account.

5 BRAND FORMATIVE DESIGN

The whole is more than the sum of its parts. In this context we want to pay attention to the often-discussed question “what is good design”? The challenge is that there is neither a “wrong” nor a “right”. There are innumerable possibilities to approach this question; the pursuit for “good” design will always be influenced by factors like individual attitudes, tastes or impressions and parameters like political or economical situations. We are not interested in a philosophical discussion about design and don’t want to point at certain design concepts. The goal is rather to look at factors, respective drivers that have a brand formative function, contribute to create product designs as more dimensional brand representatives and help to evoke activation, distinction, emotions and desires with consumers. We illuminate “*Brand Formative Design Drivers (BFD)*” and accordingly “*Brand Formative Design Items*” and subdivide them into different categories, which are relevant for the consumer (subject), according to certain surroundings (context). Based on these drivers and items we compose and investigate design and consequently derive implications for purposefully creating Brand Formative Design objects.

5.1 PRODUCTS AS OBJECTS IN THE CONTEXT OF SUBJECTS

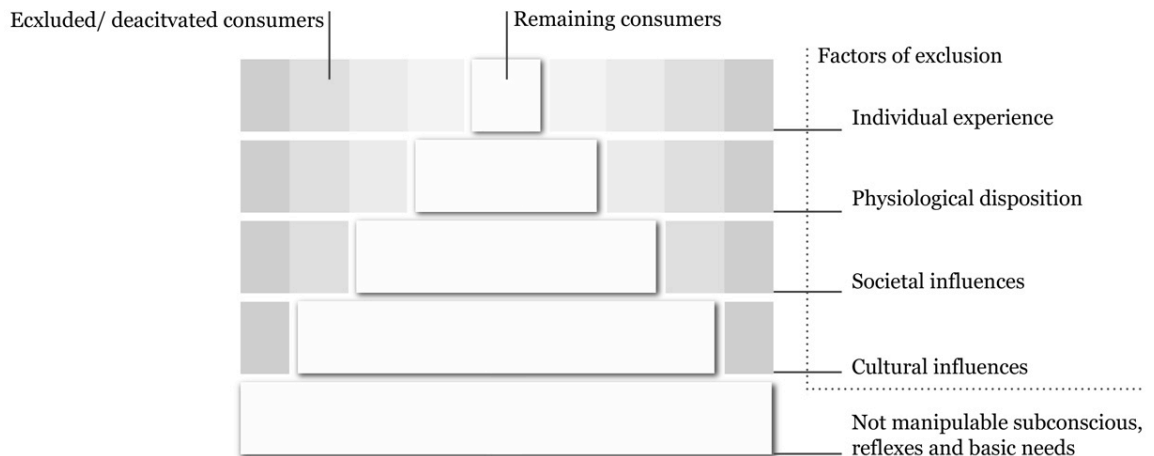
If we talk about product design we talk about products that imply different functions. Products can inhere functions of obvious, maybe technological kind. A chair is made to sit on it, but has also functions of other kinds; to evoke certain emotions or to transmit messages to others. Beside the rather technical function “sit” a chair can evoke pleasure with its consumer when he looks at it or sits on it. A chair can send signals to third parties like luxury and thus wealth of its owner. If the chair has been created e.g. by a famous designer it can communicate design expertise and connoisseurship of the owner. Of course, the chair can transmit different messages in different contexts. A chair could appear luxury and appropriate in a surroundings like a modern apartment, while the same chair might look totally out of place in another environment like e.g. a castle. But it could happen that ten years later the identical chair would appear

appropriate in the same castle because temporary parameters e.g. in the context of fashion have altered. In the following we want to discuss the above-illustrated relationships, functions and effects of the involved parts.

5.1.1 THE ROLE OF SUBJECT, CONTEXT AND OBJECT

Beside personal cognitive filters, every individual has perceptual filters, which are based on an individual experience and specific attitudes. People judge certain situations or objects against the background of individual socio-cultural influences. These influences are formed in the course of life and are updated daily. Hence we postulate a pyramid of perceptual levels that represents the different stages of individual perception and evaluation of objects by subjects according to different contexts. This figure shall illustrate how subjects individually approach and evaluate objects in specific contexts and illustrate our approach to investigate drivers and items related to Brand Formative Design in the following research work (Image 1).

Image 1 Pyramid of perceptual levels



LEVEL OF IMPACT 1: CAUSE OF UNINFLUENCEABLE AND UNCONSCIOUS REACTIONS, SATISFACTION OF BASIC NEEDS

First the goal should be to create unconscious activation among as many consumers respectively recipients as possible due to a clever design. The more people are reached here, the more potential customers can be influenced later during the exclusion proceeding. This means for design, that by the use of key frames or certain stimuli the base for a product design can be formed.

Using the example of a chain saw design, this could mean to design the main body in accordance with certain archetypes, such as a knight's armour or a sword and to add a further stimulus element, which could be e.g. a little flashlight affixed on the chain saw.

LEVEL OF IMPACT 2: CULTURAL FACTORS

The goal of *the level of impact 2* should be, to uphold or support the activation triggered on the *level of impact 1*. This means for design, to make sure to exclude as few potential consumers as possible due to e.g. political or religious reasons.

For the design development of chain saws this could mean to waive the use of certain colours, forms or patterns (e.g. crosses or crescents). On the other hand product design cannot react to significant exclusion criterions, like the general rejection of chain saws, e.g. due to environmental reasons.

LEVEL OF IMPACT 3: SOCIAL FACTORS

In the area of social factors, the possibilities for the consumer to identify with the product are essential. On the one hand, concerning milieu affiliation and brand preferences, on the other hand, also concerning financial capabilities of the consumers.

For the design of a chain saw this means that one can distinguish between professional forest workers and affluent leisure users, while an attractive chain saw, transmitting certain brand values can be a status symbol for both users.

But possibly in this case there might also exist strong brand-specific preferences: Someone is e.g. either a STIHL or Husqvarna fan and would not buy a product of the other brand, despite an aesthetically more attractive product design.

LEVEL OF IMPACT 4: PHYSIOLOGICAL DISPOSITION

Even if a product up to this level is perceived as attractive, it could be that it is not an option for the consumer due to his physiological disposition. Criteria such as weight or left-handed usability can decide the purchase of a chain saw.

LEVEL OF IMPACT 5: INDIVIDUAL FACTORS

On the last level, very personal criteria and experiences influence the purchase of a product. It could be that the consumer is just afraid of chain saws and decides not to buy one due to this fear. In this individual case it is very difficult to offer a design relevant solution, because, on the one hand, the consumers' needs must be known and on the other hand the technological or logistic possibility must be given to adapt the product in this respect.

Our pyramid integrates subject, context and object. The subject is the consumer, the object is the product chain saw and contexts occur on different levels like of societal, cultural or individual kind. The exclusion factors shall demonstrate how products can be designed in a way to integrate or to exclude consumer groups due to purposefully executed design. Based on this idea we want to observe design and its effects as a structure consisting of three variables, which are *consumer/ subject*, *product/ object* and *surroundings/ context*.

SUBJECT

With subject we mean the recipient of a design who is first of all the consumer. Consumers receive signals and messages emitted by design, interpret, evaluate and compare them with individual attitudes, preferences and emotions. In this respect, consumers have a rather *passive* and a rather *active* role. The passive part describes the more or less conscious reception of signals sent by the object respective product. The active part, on the other hand, stands for the individual interpretation of these signals. An object obtains its meaning not before the subject/ consumer has evaluated its signals -consciously or unconsciously-, developed an attitude and assigned attributes to the product. Furthermore, the consumer can play another active role, which is to consume and use products intentionally to communicate certain signals with the help of the product. Despite consuming, using and evaluating design consumers cooperate recently more and more as co-designers in product development processes.

The consumer`s active and passive roles both depend on individual previous knowledge, attitude and outlook. Consumers are dynamic elements in the process of perception, evaluation, preference and development of products: They can change, evolve and alter; individually but also as members of cultural or societal groups.

CONTEXT

The psychological and behavioural reactions towards product design are among other things, influenced by marketing campaigns relevant for the product, as well as by social conditions, with which consumers are faced in contact with the product.

Design can contribute to evoke positive reactions in different consume situations respective contexts. The relevance of product design does not end after the purchase. With the example of a shampoo bottle it is at first important to evoke activation with consumers to elicit a purchase reaction. In the next context, the object is situated in new surroundings: In the case of a shampoo bottle, this could be the shower cabin, where it is important that the product container can be used also e.g. under slippery

conditions. The goal is to fulfil consumers' desires in all consume contexts. This means for the design of a product, that in the best case an object evokes appropriate reactions in certain contexts and situations: It is not enough to trigger activation, but not a purchase action. And it is not enough either, to trigger a purchase action only; the goal of design should be to take care for customer loyalty and to persuade the customer to buy further products of the brand. Thus, the function of design is mediated by different situations and contexts during a product's consume cycle.

Cars appear totally different in design studios with artificial light, compared to their appearance outside. A car looks different when it moves than when it stands, and it also appears different in varying architectural surroundings. If we take the example of a Range Rover, the car appears appropriate in front of a British Castle. In a small village with narrow streets it might look rather big, while in Manhattan, on large avenues and compared to much bigger American SUVs, it seems nearly of average size. But also regarding style, cars can look more appropriate in some environments compared to others. Due to the extensive use of chrome cars could appear obtrusive in a reserved Swiss village but look absolutely appropriate in a colourful and flashy Asian metropolis.

But objects do also effect their environment. Particularly cars affect due to their size, number and mobility the appearance and structure of cities extremely. Also other objects influence their surroundings, beginning with furniture, contributing to the appearance of internal or external space, over architectural elements to fashion.

This is why some car companies operate a complex trick film animation studio, which can help to evaluate computer-animated new vehicle models in realistic contexts. Thus, on a virtual journey, the effects of design in a city like Paris or on a country road can be simulated, instead of only evaluating the design on a secret courtyard in the development-centre or on a cordoned-off test track.

An object which is not evaluated or perceived by a subject in a certain context, is just "dead" or meaningless like one out of millions of stones in a desert.

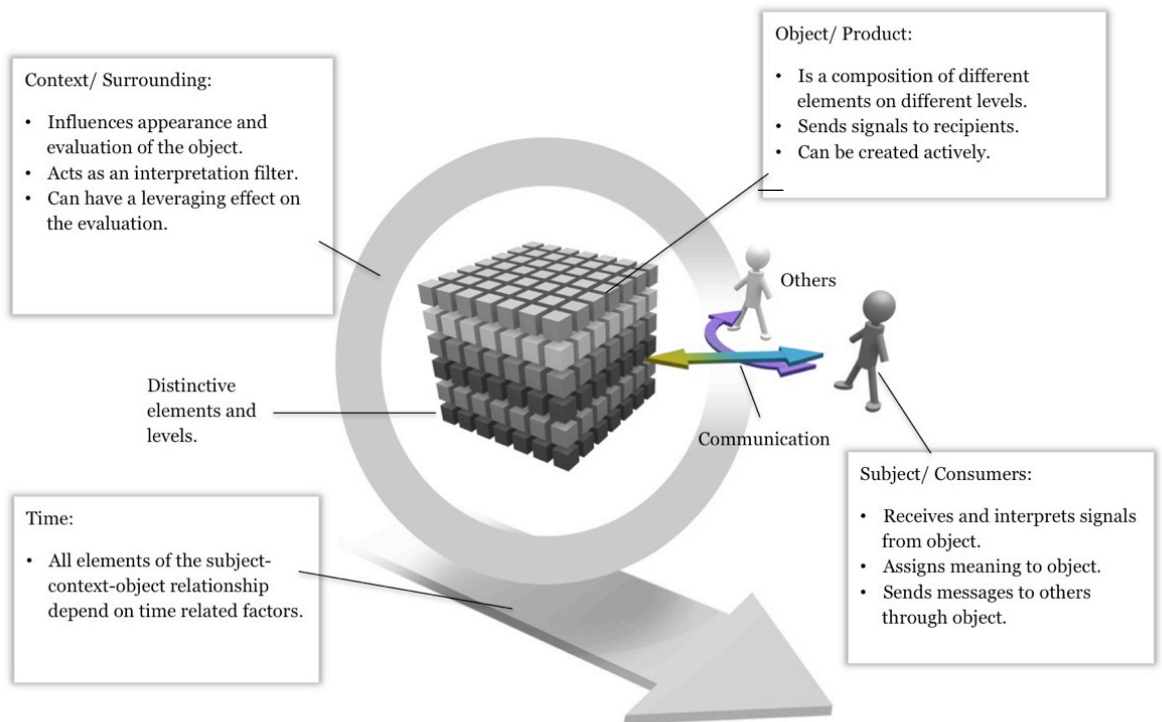
Every signal coming from a product design is influenced or filtered by different contexts. Individuals perceive objects differently in different contexts; the same object can evoke totally different emotions or preferences in different situations. On the one hand, there are contexts which refer to a specific environment in which an object can appear differently, like light situations, geographical or spatial situations. On the other hand, contexts can refer to political, societal or other actual situations and influence the evaluations of consumers. Contexts can be filters through which consumers evaluate objects, according to individual situations like financial power or family set-up, and similar to subjects contexts are also dynamic. Contexts can be understood as prisms or levers that adjust static signals, which the objects transmit and can change according to different circumstances and thus influence how subjects perceive objects.

OBJECT

With object we mean a product, designed in a specific way. Basically, a product is an individual composition of nearly infinite different elements. The creator, respective designer or producer has the possibility to combine these elements individually and to create actively a unique composition. The creators have the possibility and power to design the product how they want; on the other hand, the way recipients perceive products happens passively. It can be that subjects interpret a product completely differently, compared to the goals the creators intended.

Subjects, contexts and objects all depend on temporary changes. These changes can have different impacts and perspectives. Objects are evaluated according to a contemporary and historic perspective, but are also related to future topics. Objects themselves do usually not change significantly over time, but the attitude towards them according to new preferences of subjects and new contexts can change tremendously. Every element of the subject-context-object relationship is a member of a highly dynamic structure that is nearly impossible to control, and thus the factor time as an adjusting variable can be regarded as an element of the context (Image 2).

Image 2 Interrelationships between object, subject, and context



5.2 BRAND FORMATIVE DESIGN DRIVERS

5.2.1 INTEGRATION OF CONSUMERS

Consumers who are integrated in the design development process and contribute to decide or even design products can identify stronger with the respective objects. Today there are more and more production processes that support individual customization of products. This can be the possibility to select individual colour combinations, embroideries on sports shoes, the design of house doors or complete cars individually designed for exclusive customers.

Particularly the Web 2.0 gives designer, marketers and consumers various, new possibilities to communicate with each other and to design products or brands interactively. Open source design is a significant turning away from the design practice used today; it refers less to individual persons, but to the community. During the interaction between consumers and companies data on product preferences can be collected and used for market research purposes. The Web 2.0 provides possibilities to individualize design and finally consume self-developed products.

Referring to these possibilities, it seems recommendable to integrate consumers early as co-designers in design processes. This could revolutionize the current concept of mass marketing. Due to open source product development, hurdles for market launches in product design could significantly be reduced. Compared to software, significant sums of money must be invested to launch a physical product (e.g. hardware). Thus before you put money into the construction of new designs, these could be tested and optimized in open source platforms (Esslinger 2009).

In social networks like Facebook, there are groups where people profess clearly to brands or products, and follow certain brand- or product-specific user groups. As with interpersonal relationships, relationships between consumers and brands are characterized by ups and downs. There are moments of luck, disappointments, expectations and loyalty, strife and reconciliation, love and hate. In the respect of design interaction can occur in different situations. Consumers can interact with

products themselves e.g. by assigning meanings or applying objects. Products can be used as a medium through which consumers can interact with others. But consumers can also interact with brands, products or manufacturers by being involved in the product development process. On the websites of shoe manufacturers consumers can partially design their desired sports shoes themselves and later purchase them, similar examples exist in the field of luggage. Another instance to adapt product design is the mobile phone Nokia N79 the cover of which can be exchanged according to preferences or mood. Particularly in the field of adaptable colours or interface options various changes of product appearances are possible.

The integration of consumers in the design process is also relevant for capital goods, products can be designed individually to underline a company's corporate identity; existing examples are the unique looking United Parcel Service delivery vans or airline specific seat design.

For Brand Formative Design this is of significance, because due to the integration of and interaction with consumers in the design process findings concerning problems, solutions, desires or needs can be generated, additionally consumers identify stronger with brand and products when they contribute to their development.

According to purpose and manufacturing processes there are different possibilities for consumers to adapt products according to their individual preferences. These can be individual elements within a more or less static framework, e.g. to give consumers the possibility to design the pattern of a front grill individually; this could be the option to influence the complete design of a product series, for example based on a design competition and selection among consumers. But this could also be the complete design of a product, e.g. supported by a specific design software a manufacturer offers.

However concerning customization and individualization it must be paid attention not to hurt brand identity relevant values. A product looking ugly or extreme due to the design created by a single customer, could lead to rejection and a negative brand

image with other consumers that originally relate the brand with refined and elegant design.

BFD Driver 1: Integration of consumers in design processes

5.2.2 ATTENTION AND SCHEMES

“Tastes are different” or “other countries, other customs”. These sayings illustrate that designs or preferences can differ according to specific cultures or individuals; however, activation can also be triggered on a universal base. Psychological processes are subdivided in activating processes, which drive behaviour by inner excitements and cognitive processes, where individuals absorb, process and store information. These processes are triggered by inner (e.g. mental images like the pictorial imagination of the favourite food that evokes a hungry feeling) or external stimuli (e.g. pictures, sounds, texts or smells), which can activate individuals purposefully and increase the effects of communication. Based on a complicated interaction between elemental activating and cognitive processes complex actions arise. These activating and cognitive actions include emotion, motivation or attitude and can drive human behaviour. They include processes like perception and evaluation, decision, learning and memory. Apart from key stimuli, external stimuli don't trigger activation immediately; stimuli become only effective, when they have been decoded and their subjective meaning is clear for the recipient (Kroeber-Riel et al. 2009). Complementary it can be assumed that objects, which imply distinct visual attributes like colour, shape or size, elicit visual attention and influence reactions or purchase behaviours of consumers, despite specific brand preferences (Clement 2007).

There are design elements that lead to activation with consumers despite their social situation, cultural background or gender. There exist design relevant features causing activation or preferences but also boredom in consumers on a universal base. For product design it is true that the purposeful use of certain stimuli can evoke attraction in recipients and thus can be a first door opener to the customer. However, it is possible that a product, which attracts the attention of a person, falls through the

individual “grid” in a further review and receives no more attention. For product design primarily external stimuli are relevant. They can communicate certain product relevant messages to recipients. In contrast inner stimuli are difficult to identify because generally we don’t know much about the inner, actual emotional states and needs of consumers. And if we knew them it, it would be very difficult to adapt the product design individually and in a short term according to the consumer’s inner stimuli. However, based on the Web 2.0 and individual consume and production methods, new opportunities for a purposeful product design could arise.

Products stimulating recipients dominantly can have the affect that competing products activate consumers less. Particularly with FMCGs or novel products it could make sense to apply “extroverted” and strongly signalling stimuli to evoke first attraction at all. Nevertheless, in the long run attention must be paid not to appear vociferous. Even radically renouncing the use of stimuli evoking attraction could be a distinctive element.

BFD Driver 2: Evocation of attention

The confrontation of the public with certain objects is similar to a person not understanding a language and thus intuitively deriving a value judgement based on external appearances like form, gesture, posture or colour (Domizlaff 2005). In this respect schemes support recognizing and understanding processes; they can be described as knowledge structures, which contain typical characteristics or standardized associations concerning certain objects, persons or events. To recognize something we need to have an idea of the “organization” of an object. In order to be able to call a chair a chair we must first recognize a certain proportion, for example, between chair leg, back and seat which enables sitting. If the chair is made of materials like plastic or wood is totally irrelevant concerning a classification as chair. This recognition of an object’s organization occurs continually as a cognitive act (Maturana and Varela 1987); which can occur consciously or unconsciously. The product or its features, its meanings and functions can be recognized without much awareness (Karjalainen and Snelders 2010). Schemes can be of immanent kind, learned in early childhood or later and are not limited to verbal contents; also emotions are integral

elements of schemes. As a framework, schemes can help to select and organize relevant information; the higher they are developed, the more comprehensive and complex they become. Schemes have a significant impact on the reception, process and storage of incoming information concerning, for instance, a brand (Esch and Möll 2005). Human faces can be compared with a brand or a product. It can happen that one finds a person spontaneously nice, but at first does not know why. Then one notices that this person has a certain similarity with another, person already known. Due to this similarity, resentments and uncertainties concerning this unfamiliar person can disappear (Domizlaff 2005). Similarly product design can inhere links to existing products. Stimuli that are familiar to real objects seem to diminish uncertainties regarding novelty and thus are preferred over novel characteristics (Bar and Neta 2006).

Consumers think, perceive and evaluate in schemes. There are *learned schemes* like, e.g. how a prototypical table should look like, but there are also *inborn schemes* as the scheme of childlike characteristics or the scheme of erotic.

Schemes can occur on different design-relevant levels. For example colours can refer to culturally characterized schemes, like e.g. black as a colour of sadness, while the combination of black and yellow is a rather inborn warning colour scheme. Identical schemes can be communicated by using different means; e.g. childlike characteristics can be illustrated by line drawings (e.g. happy face) or by soft and specifically proportioned shapes. Schemes are widely used in advertising campaigns but also in different kinds of products, beginning with the design of packages like perfume flacons over the design of toys to the design of cars. The fashion label Jean-Paul Gaultier designed perfume flacons that looked like male or female torsos according to the flavour of their perfume; similarly the classic Coke bottle has a shape reminding of female physiognomy. Especially women react positively on products that use childlike characteristics like the MINI Cooper or Fiat 500. But also electronic devices like mobile phones that are characterized by “cute” elements and proportions can evoke attributing reactions.

Recipients generate schemes also towards known products. Concerning the term “chair” a consumer might have certain images and expectations in his mind, a product design must fulfil. Concerning brand specific schemes, a chair must embody values of the trademark “Herman Miller”. Within these frameworks, there still are considerable scopes for product design.

There are proportions that are indirectly related to laws of physics and thus learned schemes. That means, due to our experience with gravity we assume certain objects to be stable or fragile according to their proportions. An object, which compared to its base is larger at the top, appears not as solid as an object that is larger at the base. In architecture there are examples where people don’t dare to enter houses, because they don’t trust the stability of the house due to its proportional appearance. Because of its deep visual centre of gravity and ground oriented stance an old MINI looks much more stable and “sticking to the ground” compared to a Citroen 2CV. A very thin piece of carbon fibre might look more fragile than a thick piece made of metal although it is possibly much stronger.

Schemes or stimuli can be applied in objects hierarchically in order to underline certain attributes and to weaken or hide others. An extreme colour can take the recipients attention off an object’s maybe complex or boring shape. By applying schemes hierarchically the danger of over information respective overladen design can be diminished and messages communicated more purposefully. However, by using schemes in design, it is not necessary to be obvious: That means, a car which serves the erotic scheme, does not need to embody obvious sexual elements like breasts or anything similar. It is more about a subtle feeling; although the Porsche 928 can be seen as one of the cars with the “most sexy ass” its back does not look at all like a human or animal backside.

Transferred on design a specific, schemes inhering product can evoke attention in humans. Due to a certain, attractive design in the consumer’s sense a product like a shampoo bottle can stand out over competitors and evoke interest. This can lead to a first involvement with the product and subsequently to the purchase. Certain designs, referring to schemes can arouse attraction in humans, who can’t describe or reason

their positive attitude towards the product. In this respect the attitude towards styles or products can be very individual, but in some areas also universal. Therefore we can assume, that the stronger a product design corresponds to the schemes of a consumer on different levels, the stronger and faster emotional relationships to the product and brand can be built up.

BFD Driver 3: Refer to schemes on different levels

Many examples of design, which became most successful products due to breaking rules or by deviating from known paths seem to confirm Jean Jacques Rousseau's (Rousseau 1998) statement that, taking course opposite to custom nearly always leads to the right thing. Often especially the skilful breach of rules is what makes the charm of new and successful designs. A rule-breaking can occur at different levels, like on a technical level in the use of new propulsion concepts and new materials, or by using existing technologies for new purposes. This seems to be supported by the concept of marketing innovativeness, which propagates going on new paths, moving away from standards and thus differentiating from competitors (Beinert and Diller 2009). Similarly, as personality profiles, brand profiles can have rough edges and thus, according to Walter Brecht of Interbrand, remain in the memory. A brand without a profile is not a strong brand (Marinovic 2010).

The novelty of a product is mainly conveyed by design and visual product newness, which is seen as a relevant factor concerning the adoption of new products. Product newness is -not like technological features- a characteristic which is attributed to a product by consumers; it is a comparison of the present object with previous versions. Novel products attract consumers, because they differ and stand out of the mass (Radford and Bloch 2011). When a product uses a design language, which is in conformity with the current evolution of sociocultural models, the object would possibly appear fashionable or stylish according to the contemporary definitions of beauty and can be characterized as incremental innovation of meanings. Yet radical innovation of meanings entails messages that are based on a significant reinterpretation of meanings (Verganti 2008).

There are many examples of companies and products that were successful due to a consistent break of rules. Apple brought the brand back into the consumers' consciousness with the transparent and colourful iMac G1. Under Chris Bangle BMW applied a completely new treatment of forms. Some concept cars were even designed asymmetrically, with the Walkman SONY broke the rule that music must be listened to at home and Esslinger (2009) applied a feminine, soft design for the dental equipment manufacturer KaVo in order to address the growing number of female dentists.

Again in this respect the application and effects of schemes are relevant and represent the known or the expected. However, also the deviation from schemes can cause arousal. Congruency between a product and a product category scheme is called "scheme congruity"; when a product differs significantly from its category scheme it is called "extreme scheme incongruity". The more moderate scheme incongruity is (reasonable deviation in relation to known objects), the more positive appears the response from the consumer. However, scheme-incongruent products lead only to positive effects if thought-processes regarding the novel object finally resolve the incongruity. But extreme incongruity can have the effect that consumers cannot decode or understand products which leads to frustration and rejection. Yet, perfect congruence describes familiar objects and rather triggers boredom and disinterest. Therefore, both extremes are rather negative concerning product evaluation by consumers. It is recommended that, in order to attract consumers, design should deviate from schemes but to avoid rejection not in an extreme way (Meyers-Levy and Tybout 1989).

Highly radical shapes can receive high attention, but can also lead to low acceptance when the object is too much outside of a certain category. Products whose design novelty does not fit the status of technical performance may lead to a flop. As an example, the Smart Roadster whose styling expressed agility, speed and newness, had only a weak engine, which led to poor driving performance and thus could not keep the promise given by its design. On the other hand, there are successful products like Dyson vacuum cleaners or Kartell's Bookworm where design and technology reinforce each other (Talke et al. 2009). Also Swatch has broken rules on many levels, by

simplifying the technology of the traditional Swiss-watches and by reinterpreting the product “watch”: Namely no longer to understand a watch as a lifetime investment, but as a fashion accessory with frequently changing collections and hip designs.

Rules or laws can be broken in different ways; by using existing products for new tasks, by changing product meanings, by combining existing products to new surprising and maybe provocative objects or by changing known proportions. There are innumerable possibilities to break rules, respective deviate from schemes and doing so to evoke attraction and surprise.

There is a rule for design saying that recipients perceive symmetry as harmonic and aesthetic, while asymmetry is rather perceived as disturbing. Nevertheless, exactly this disturbing factor can trigger activation and avoid that a product is only “nice” but still boring. Characteristics that deviate from the usual, maybe even from beauty-ideals, remain clearly in our mind. Most of us know the beautiful faces of Marilyn Monroe or Cindy Crawford, but what we really remember and love about their faces are their beauty spots that evolved to distinctive marks and brand signs.

This can also happen with a gap in one’s teeth or differently coloured eyes. The same is true for products which have unique characteristics. They appear interesting, evoke attraction and are memorable. Concerning design there are many possibilities to create unique character traits respective frictions, beginning with asymmetry, unusual colours or proportions.

But if rules are broken in such an extreme way that a car is completely made of asymmetrical elements, it might be perceived as totally inharmonious or strange and thus would most probably have no chance to evoke positive emotions. Also deviating extremely from other schemes involves risks: If a chair can’t be recognized as a chair, or the product is designed in a way that it doesn’t correspond anymore to a consumer’s scheme concerning a chair of a specific brand.

On the other hand, there is a risk that too well known and often used schemes or mental images are applied. Such an obvious approach could entail that no activation is

triggered and consequently the product may be regarded as boring or not noted at all. But, if all cars referred to childlike characteristics, there would be no distinctive function anymore.

Consumers purchase products due to different motivations. First of all, this is related to the intended product purpose. Thus, fast moving consumer goods (FMCG) are consumed with totally different premises like, cars or capital goods. Body care products are usually consumed more spontaneously than vehicles; the risk of a bad investment due to the purchase of FMCGs is much smaller compared to large investments. However, in particular with close to the body products, like cosmetics, consumers rely on personal experiences and constant product-quality, accompanied by high brand loyalty. The unconscious plays a significant role, particularly with products which are consumed rather fast at the point of sale. Buying decisions for cost-intensive capital goods, on the other hand, are rather based on planned, economic considerations. Consumers expect of certain products, like cars or high-tech devices, a regular, noticeable evolvement of the product-design, because, on the one hand technological revaluation should be visualized; on the other hand consumers want to communicate to thirds that they possess the latest. Cutting-edge products. Accordingly, the degree of change or the development of new product-design must be either more obvious or cautious according to the product category and purchase time.

The concept of scheme congruity illustrates that the design process is a difficult tightrope walk, where it is important to meet the right degree of novelty, according to the specific products and target groups. If we apply disturbing effects purposefully, it is important to stay within certain parameters. That means not to hurt brand value significantly, but rather to compensate breaks within an object by moderating factors, in order to achieve a harmonious and coherent but exciting overall structure.

BFD Driver 4: Deviate from schemes purposefully

5.2.3 AESTHETICS

One of the Ten Commandments for good design postulated by Dieter Rams is: “Good Design Is Aesthetically” (Kotler and Bliemel 2006, p.486). When humans talk about design, they often relate design to the aesthetic appearance of products. Aesthetics stand on the one hand for the science of beauty, the theory of patterns and harmony in nature and art; on the other hand it describes the stylish beauty (Dudenredaktion 2007).

Aesthetics offer companies a variety of options to address consumers about sensory experiences and thus generate customer satisfaction and loyalty. It serves both the company and the customer. The ability to use aesthetics is not only limited to companies of the consumer goods or luxury industry, also capital goods manufacturers and other organizations in all sectors benefit from the use of aesthetics. Aesthetics can create loyalty and contribute to the sale at maximum prices; products or experiences, which can be perceived by consumers sensually, can be capitalized in the form of added value. By using attractive aesthetics and a distinctive symbolism, information blocks can be broken through; the case that competitors copy aesthetics or sensory elements is almost impossible. The example of the successful U.S. market entry of the Swedish vodka manufacturer Absolut shows good brand management under the paradigm of aesthetics: Within 10 years Absolut achieved a 60% market share of import vodka; referring to a very creative campaign where the term "Absolute" and the unique bottle pursued a complete strategy with the core theme aesthetics (Schmitt and Simonson 2005). Another example for the successful use of product aesthetics is the watch brand Swatch, which referred to a holistic art-oriented strategy, raised the product “watch” to a new level and managed to create an extraordinary brand in a saturated market (Bloch 1995).

Consequently, it can be concluded that aesthetic design contributes significantly to increase brand value, but also to the perception of an aesthetic brand as high quality. It can be observed, that due to experience or external influences, such as marketing, fashion or changing social norms, aesthetic determinants vary in their degree of expression (Veryzer and Hutchinson 1998).

A challenge in this respect is to determine what aesthetics are. According to culture or social status aesthetics can have different connotations. While nouveau riche people might regard rather baroque, obtrusive design as aesthetic, others might relate reduced and slim forms with aesthetics. In this respect we propose to distinguish between “learned” aesthetics, which are styles or products that are assumed as aesthetic in certain cultures or target groups and “natural” aesthetics, which inhere attributes like symmetry or the golden ratio. As an example of natural aesthetics specific proportions occur everywhere in our surroundings, beginning with nature and ending with architecture and art. Certain proportions characterize the appearance of our human stature. Due to these proportions coming from us or other natural objects we create and evaluate our environment. Proportions of products can be regarded as one of the most important aspects concerning an aesthetic and harmonious appearance of products. Proportions determine the first impression of a Gestalt; if the proportions are not balanced respective appropriate; details, ornaments colours or other graphic elements cannot save the object’s bad appearance respective impression with recipients. Design, which is associated with aesthetics, can contribute to the fact that also the brand and its stakeholders can be regarded as aesthetic, respective being sensitive for aesthetics.

BFD Driver 5: Aesthetics

5.2.4 PERSONALITY

Humans can build up relationships to brands and products as they build up relationships to other humans or animals. Here we can also talk about personalities of products, brands and companies; characteristics of objects such as shape, typical patterns or organizations, identifying features or characteristic behaviour define or create identities (Krippendorff 1989). In this respect, five dimensions of brand personality were identified. Sincerity, excitement, competence, sophistication and ruggedness, yet there are similarities between human personality and brand personality. Sincerity, excitement and competence appeal to inborn parts of the human personality, while sophistication and ruggedness are properties, which individuals desire, but don't possess necessarily (Aaker 2005). In the human psyche impersonal terms seem to be much fewer acknowledged and admired compared to persons. Personalities leave their mark on products and thus create branded goods (Domizlaff 2005). This can be confirmed by the finding that people recognize human shapes in nonhuman objects; they associate a bottle with a human torso or the back of a car with a human bottom (Landwehr et al. 2011). The influence of product form on perceived functional performance is similar to the social psychology of personal appearance. The attractiveness or other physical traits of human individuals cause specific associations and judgements concerning competences like social abilities, leadership skills or work quality (Hoegg and Alba 2011).

Certain characteristics of a product design can contribute that consumers assign specific personalities to objects and accordingly identify with them. Referring to the above mentioned brand dimensions product design could contribute to create aimed-at brand personalities. Consumers identifying with product or brand personalities might develop strong loyalties and desires towards such objects expressing their self-conceptions. In the case of car design strived for brand identities or personalities can be underlined e.g. by specific front designs. Design, which implies latent aggressiveness can lead to high levels of arousal but to low pleasure, a latent friendly appearing design triggers pleasure but only low levels of arousal while a combination of aggressiveness and friendliness seems to offer a good way to evoke pleasure and arousal (Landwehr et al. 2011).

The example of car faces illustrates obvious personality relevant characteristics. Similarly as humans have individual personalities, which go back to inner characteristics but also to external appearances, products can have personalities. While inner characteristics of products can be functional performance or quality, their appearance goes back to physiognomy-expressing inner characteristics like e.g. speed, power, reliability or aggressiveness. Consumers identifying themselves with certain traits might consume or prefer products and brands underlining such desired personality characteristics. Like humans build up relationships with other people, pets or brands they also interact with products. Accordingly humans tend to assign characteristics to products and relate them with other objects, persons or animals and set products in a context with themselves. Products can be applied to underline or create a desired personality towards others.

However, design or product personalities do not only refer to faces or physiognomic traits. They can also refer to characteristics like protection, robustness, refinement or reliability and be expressed by versatile ways like treatment of shapes, proportions or symbols.

This means for design, that products should also have a concise and unique personality profile. According to specific products, like cars or capital goods, completely different design attributes have to be used in order to create a product and brand personality. Vehicles are very good bases in order to create product personalities, because they have, for instance, "human" characteristics like a "face", while printing machines have to come up with other attributes, like communicating reliability. In this case the optical weight and the proportions of the machine could communicate the attribute "stability".

BFD Driver 6: Product design personalities

5.2.5 DESIGN LANGUAGE, MEANING AND BRAND

Design contains meanings on many different levels; “meaning” can refer to “sense”, but it can also refer to “purpose”, “objective” or “use”. Both “meanings” are relevant for Brand Formative Design, because products inhere symbolic, communicative functions but also application-oriented purposes. However, design is increasingly evolving from a technological, functionalistic to a user experience oriented product development; attributes like enjoyment, satisfaction or communication gain importance and are results of a user - product interaction (Pals et al. 2008). In this respect product form can contribute to communicate information of various kinds, it can evoke initial impressions and draw conclusions concerning price or quality, and it can contribute to build up brand identities (Bloch 1995), which is particularly relevant in highly competitive situations where countless brand messages flood markets (Karjalainen and Snelders 2010). However, it is criticised that in some companies products are not evaluated according to their technical innovation and efficiency, but according to their behaviour towards competitors, the market and their expression (Aicher 1996); others argue that entrepreneurs should not be interested only in efficiency but rather look at things from other perspectives; to identify coherences, gaps or chances (Zakon 1998). Complementary, the philosophy “form follows function” excludes ordinary users from a holistic examination and ignores meanings that recipients see and construct. Consequently, “form follows meaning” refers to meanings of forms intended by designers and perceived by consumers and what kinds of sense they make to people (Krippendorff 1989); amplifying this, design is concerned with meanings, recipients assign to products and product languages, which can be applied to express those meanings. The innovation of “meaning” is based also on design and refers to a product’s “why”, the deep psychological and cultural motives to use a product. Such meanings can be based on an individual or social motivation, what people feel when they use a product or what kind of messages it conveys to others (Verganti 2011a). In this respect marketers and product developers can give new meanings to products and identify new benefits by concentrating on consumer value systems and how they evolve (Durgee et al. 1996). Product meanings coexist during a period of time and are often novel interpretations of existing product languages. Thus

innovations don't necessarily need the use of new materials or colours; a new composition of established product meanings can transmit new meanings. Past styles, newly interpreted can successfully come back when their meanings are societal relevant again. Innovation can occur also based on the progress of intangible characteristics, which a preceding object did not possess. Such an intangible attribute is not of physical nature but is a combination of semiotic categories like e.g. colour, form or material which leads to an aesthetic value and thus to certain associations with the object by the consumers (Dell'Era and Verganti 2011).

In human communication there are two ways, how objects can be described: Either by analogy (e.g. a drawing) or by a name, whereas names are rather arbitrary. There is no compelling reason that the letters "t-a-b-l-e" should name a particular piece of furniture, and the word "table" has nothing particularly table-like. Instead, there is a semantic convention for the relationship between word and object. An analogy, however, has a fundamental similarity-relation to the object for which it stands. As an example it may be mentioned that the pure hearing of a foreign language, can never lead to understanding this language; by the observation of sign languages however, information can be derived easily (Watzlawick et al. 2007). In this respect a product can be understood as an analogy, as a transmitter to communicate brand values or other messages. Basically, an object is a composition of different meanings, which together result in new meanings. The composition of meanings could also be characterized as a pattern of meanings and thus as (pattern) language. If we substitute the term "meaning" by the term "word", an object speaks the language of a brand. Applied in products, meanings respective specific symbols, shapes or colours communicate messages instead of words. The simplest language type comprises two sets, which is first a set of elements or symbols and secondly a set of rules to combine these symbols. The symbols could be the array *,+,=,x, the rule could say that the same symbol may not appear twice in a row. Consequently *+*+x= would be a sentence but not x+x+**. However a natural language like e.g. English is much more complex; there are also rules and symbols respective words; additionally, there is an interrelated structure which leads to a semantic meaning. If the same words are arranged in

different sequences the message of the sentence can completely change (Alexander 1979).

Respective Brand Formative Design applying and referring to meanings and design languages appears as an effective way in order to communicate every kind of messages. Meanings can be used to reinterpret products and thus create design innovations; they can serve as a social marker or descriptive element. Using, composing and inventing meanings can be assumed as one of the most important factors that contribute to create brand identities and transform products themselves into unique brands.

On the one hand, products should incarnate and communicate spirit and values of a brand, but, on the other hand, brands evolve based on their products and services. Products and design must be anchored appropriately and purposefully in the marketing-mix. The best design is useless for a company, if it cannot be sold due to the use of ineffective distribution channels, if it is advertised incorrectly or offered at a completely inadequate price. Conversely, the best advertising cannot help to sell a bad product successfully.

Similarly, like the above explained term “t-a-b-l-e” contains information about a certain piece of furniture the object “table” contains information about its use, and thus Brand Formative Design should strive to be self-explanatory, embody brand values and objectives. In the optimum, a design incorporates meanings according to its brand values as significantly as a table contains meanings about its function. A product design should not have to be described in a brochure like “...the high quality design is expressed by...” rather it should embody values, meanings and thus be easily understandable for its target group. The goal should be to create products, which can be seen as a synonym for a brand and its values. If consumers, for instance, read or hear the rather abstract array of letters “S-T-I-H-L” they should immediately recall an image of a specific type of design, but, vice versa, also the respective products should communicate brand values in a self-explanatory way.

If we compare products and brands with humans, people apply or wear specific icons or products in order to create a desired image. For example glasses can serve as an iconic, distinctive product. People understanding themselves as sporty might prefer glasses looking rather dynamic; others working in rather creative branches might prefer extroverted glasses and managers often tend to use rather discreet, frameless glasses. Wearing or not wearing certain clothes, brands or accessories shows in which social groups consumers see themselves, despite product prices. A piece of the brands Barbour or Ed Hardy can cost the same, yet the respective milieus might differ significantly and in one group applying a product of the other group might be a no-go. Members of the same social groups apply social and habitual codices they have learned during generations and accordingly consume specific products. By using a combination of specific iconic goods like e.g. Burberry scarves, Land-Rover cars, Timberland shoes and even hairstyles a certain self-understanding can be expressed. Even with capital goods companies can communicate desired images; products like Apple computers could communicate creativity, forklifts by Linde financial power and efficiency.

Transferred on Brand Formative Design this means, that on the one hand products consist of a certain combination of symbols or meanings, but can become symbols and icons themselves and thus can contribute as an individual element to form a higher message. Brands are based on creating dreams, providing experiences and telling stories. If we transfer the concept of pattern languages to products we come to the term design language. This term is widely used, but often refers to a language created by a designer's style or corporate design guidelines. In this respect Brand Formative Design can be a three dimensional narration, telling a brand's story. A Brand Formative Design language can be a lively and dynamic combinatory system, providing a framework of rules and symbols as a base to form individual, novel and recognizable meanings of a design and a brand.

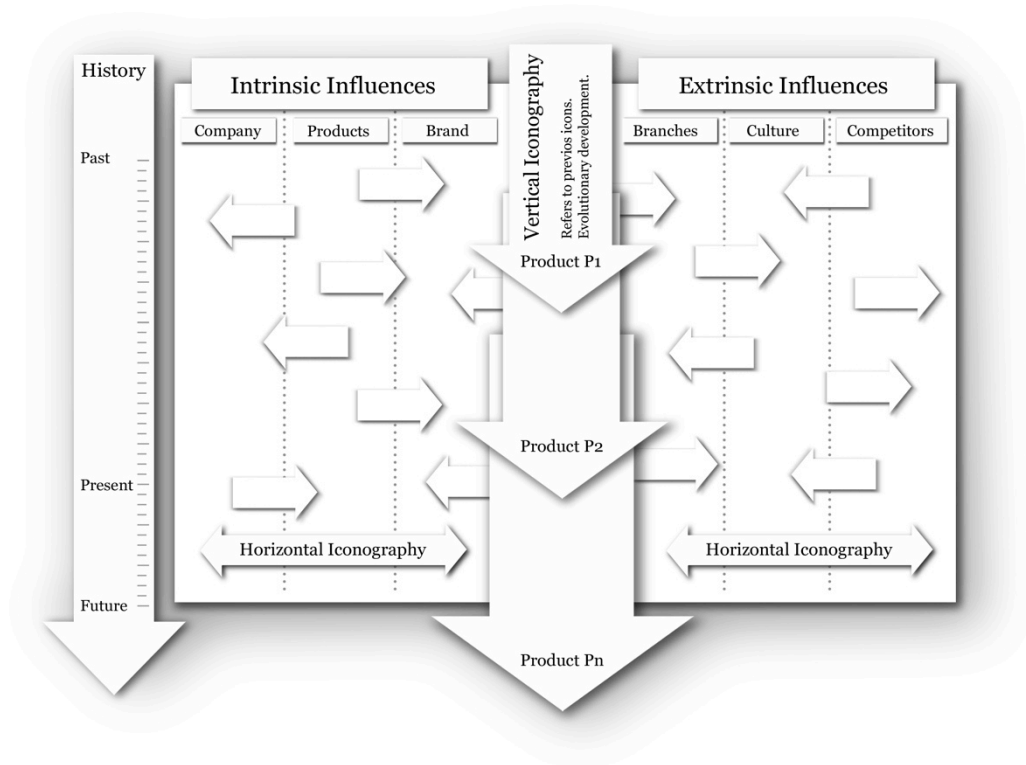
Design attributes relate products to specific brand values; simultaneously, their interpretation is influenced by brand values and their historical images. This means that associations caused by design features are interwoven with additional,

associations aroused by the brand. Cumulated, these associations create a thematic relation between the brand values and the design. These associations can be created e.g. by culture and are context or time related; they are formed by both, market and company (Karjalainen and Snelders 2010).

The Meissen porcelain manufactory can look back on a three hundred year history. Since 1722 the trademark of the "crossed swords" is used, and since 1739 the famous Meissen onion pattern has been part of the product offering which refers to Chinese porcelain of the Ming dynasty and is sold successfully until today in many new variations and interpretations (Meissen 2010, WWW). An essential feature of successful brands is to have a grown and maintained brand heritage. In a company's history many citations or stories can be found, which can be used with new products or brand worlds. Yet, to create a desired brand image, also quotations coming from other industries and products can be applied, like a mobile phone imitating automotive forms or cameras referring to shapes typically used in mechanical engineering. Similar to artists, who use certain symbols or icons in their paintings in order to convey a certain message or emotion, there are many possibilities of various culturally characterized icons and connotations, which can convey, due to the design of logos, packaging, products or other elements, brand and positioning relevant associations and messages.

In order to structure, combine and link, meaning, brand identity, heritage, icons and other design characteristics with intended goals we propose a concept of "horizontal" and "vertical" iconography. Horizontal iconography stands for the influence or adaptation of certain design features, symbols, or icons on the horizontal level. Here we don't refer to inherent historic, evolutionary characteristics of a product, but to horizontally running extrinsic or intrinsic effects. "Extrinsic" refers to influences coming from outside, for example from other brands, industries, competitors, or cultures, "intrinsic" stands for company-internal influences which are not primarily in a evolutionary direct relationship with the product. By help of this horizontal and vertical iconography already learned contexts, worlds and experiences can be communicated and transported; messages can be placed purposefully (Image 3).

Image 3 Concept of horizontal and vertical iconography



The concept of horizontal and vertical iconography could in this regard make a contribution to Brand Formative Design by purposefully creating brand relevant statements and improve, structure and simplify brand extensions or product evolutions. The concept of horizontal and vertical iconography is explained by the following examples.

The car brand MINI with its rich heritage has reinvented itself with the introduction of the "new MINI". New and innovative marketing methods were used; attributes such as "cheeky" or "sporty" were evolved. But MINI did not use only its own icons and quotes such as the grill, round headlights or the "floating" roof (vertical, intrinsic), but under the premise of "britishness" also significant icons of other British brands or culturally influenced connotations (horizontal, extrinsic). The icons evolved by MINI ("new MINI") are in turn further used inside the company or brand. Thus, the completely new product "MINI Countryman" cites icons of the "new MINI" (horizontal, intrinsic). Some design characteristics of the MINI, however, are now also used by other brands (horizontal, extrinsic). The "KIA Soul" uses individual stickers (e.g. like MINI's roof

flags), the Skoda “Fabia” and “Yeti” have floating roofs painted in different colours and Daihatsu referred with the “Trevis” obviously to the first MINI. Citroën however aims with the “DS3” and the campaign “No Retro” obviously at MINI but refers also to its own avant-garde heritage. Yet they use design-characteristics that are similar to MINI, like the floating roof or the shape of the grill. Fiat uses with the 500 similar design characteristics as the MINI, and the decision for a revival of the Fiat 500 was certainly taken against the background of the success of MINI, but here Fiat can refer to its own history and icons.

Also Apple applied a design-philosophy referring to cross-brand citations and icons (horizontal, extrinsic). The iMac, iPod or first generation iPod Touch obviously cite products of the German electronic devices manufacturer Braun. In the case of Apple and Braun, these similarities and citations are mainly known to Apple or Braun Fans or design experts, the majority doesn’t know about these relationships.

Philippe Starck’s and Eugeni Quitlet’s chair “Masters” refers very obviously and eclectically to known masterpieces of design. In this example Starck and Quitlet created a new and unique chair design by combining the outlines of three famous and iconic chairs and thus created a new artefact based on designs of Arne Jacobsen, Charles Eames and Eero Saarinen. Although the chair refers to known design, the way of combining the three chairs is new, unique and thus creates new meanings.

Nevertheless, there is a danger that if brands or design use icons “incestuously” and cite themselves repeatedly, they don’t evoke purchase needs but boredom, like the car brand Jaguar did until recently. In contrast, there is the risk of a radical realignment of a brand and design strategy, which along with the denial of history, brand values and icons, cause uncertainty and mistrust with consumers.

Design language and the creation of meanings intersect partially. The definition of design languages and thus a specific combination of symbols or forms can lead to a creation of meanings. But meanings do not only refer to brand or design statements but also, to the way how products are used.

Respective product design it is not obligatory trying to reinvent the wheel or to concentrate on technological innovation, much more to reinvent how products can be used; to reinvent how products can be understood and perceived can be a fertile base to create unique products and Brand Formative Designs.

BFD Driver 7: Brand Formative Design language rules and elements

The memory power of an individual person is influenced by so many experiences that there is not much space left for simple impressions. The mass or public, on the other hand, takes simple impressions into account and is equipped with a strongly developed memory for forms and colours, which can be valid across centuries. From a time-related point of view the mass reacts very slowly and to reach the mass by sending messages takes time. Thus it is important that companies hold out and take care of continuity in their messages. To create brand images in the public mind it is necessary to concentrate on a simple and clear tone, tenor and style and to communicate self-confidence, calmness and power. Consumers react immediately on uncertainties and changes of methods, escaping from brands or products can be the consequence (Domizlaff 2005).

Several examples illustrate the risks and negative consequences of inconsistent design. When BMW launched the new 7 series in 2002, which had a completely new, less slim and dynamic product-personality, the design was criticized so heavily that there was a "Stop Chris Bangle" online-petition in the Internet, which demanded the dismissal of Chris Bangle, acting at that time as BMW head of design (Spiegel Online 2010, WWW). In this respect also the cigarette brand "Camel" can be mentioned: After "Camel" changed its character completely, significant losses were the consequence. Coming from a brand that incarnated adventure and jungle, it transformed into a funny plush camel (Esch et al. 2005). If we project this change on the feelings of a "Camel" smoker, who would walk miles and miles to get a Camel cigarette and who wants to communicate adventure and jungle feeling, and who is suddenly associated with a strange looking plush camel that wears latex and leather clothes, we can almost talk of fraud and mockery of the classic Camel smokers. Another negative example of extreme change showed the Swiss chocolate brand Cailler, whose package design was

completely redesigned in 2005 by the famous architect and Pritzker Prize winner Jean Nouvel. A previously flat, rectangular traditional paper packaging became a red transparent plastic packaging, in which the chocolate pieces were packed separately and stood upright. Hand in hand with the new design, there was a price increase of approximately 8%. The result was a wave of criticism e.g. by consumer associations, which criticized the package's poor environmental performance due to the large box and poor recycling possibilities. Some wholesalers even took the new Cailler off the trade. In addition, the packaging was considered as looking too sterile and artificial. Consequently Nestlé had to react and introduced again the old package. The failed relaunch resulted in a decline in sales of about 30% compared to the previous year, a damaged confidence and image among customers and merchants, as well as a loss of about 50 million Swiss francs (Wäch 2006, WWW) (Image 4).

Image 4 New (left) and original package design (right) of the chocolate brand Cailler



Left image (Swissinfo, May 31, 2010), right image (Cailler, May 31, 2010)

Concerning the message of a brand or a product, continuity is most important. If you buy a bag of Louis Vuitton you want to purchase -beside excellent quality- also messages you can communicate to third parties like luxury exclusivity or financial strength. If Louis Vuitton suddenly reduced its prices dramatically, manufacture products made of plastic and sell them in ordinary department stores, the company could gain maybe new customers in the short term, but at the same time the brand would violate the trust of its existing customers significantly. The products would lose considerably in value, not only of financial kind, but above all concerning their brand message.

In the past, the brand Puma made the mistake to severely damage brand in a vicious circle of discounts, promotions and poor quality. In the early 90s Puma did not even have a consistent and binding corporate identity. Every division adapted the logo according to its own taste and many different variations of form and colour evolved (Peters 2007). The brand has made a highly successful turn-around, not least due to continuous and consistent use of brand value.

These examples show that a design, even if it is made by outstanding personalities and is perceived as aesthetical by other avant-garde persons it does not necessarily fulfil its purpose, namely to create confidence with consumers and to communicate brand values. Rather it was refused and caused financial damages. Consequently, it is of importance to evolve Brand Formative Design very carefully and consistently.

Beside extreme changes in the design of new products, less distinctive and consistent designs can lead to the situation that products cannot be clearly assigned to brands. There are many examples of inconsequent design, due to the use of carry-over-parts, but also due to a lack of interest, knowledge, assertiveness and discipline. Because of modular structures, products equalize increasingly; product differentiations through technical or qualitative characteristics decrease. Commercial vehicles of different brands are often entirely identical. The company Same Deutz-Fahr sells nearly the same tractor under the brands Hürlimann, Deutz-Fahr, Same and Lamborghini; a differentiation can be made only based on the colour combination and the front grill. Similar examples exist in package design: Due to cost reasons packages are identical across different countries or cultures, beginning with applying the same colours or brand names and ending with product descriptions or brand names printed on the package in different languages. But there are also product design strategies where all brand relevant elements in direct contact with the consumers are design brand specific, and only invisible, technical components are identical among different products and brands. This brand and design conception, based on the so-called badge-engineering-concept may lead to a dilution of the specific brand and diminishing brand loyalty (Dudenhöffer 2005).

Among other functions, a brand guarantees that the consumer can rely on a consistent level of a certain quality and a unique composition of an individual brand. In particular, strong brands have imprinted themselves in the consumer's brains during long learning processes. Brand image and brand identity are changing only slowly and are usually stable over time (Esch et al. 2005). Additionally, it seems to be important to endure a once begun concept long term. The challenge is here to vary the basic visual motif so carefully that it avoids monotony but does not leave the "Image corridor" either which is allocated to the scheme. In the development of campaigns or products it is important not to search obsessively for the "big idea", but to develop ideas very creatively and sensitively within an existing brand identity concept (Ruge 2005). Visual consistency concerning product design is particularly regarded as beneficial when brands operate in mature product categories, when renewal cycles are long, when brands are active in niche markets or if the brand has a strong heritage and has already developed a strong design identity during older product generations (Karjalainen and Snelders 2010). Concerning Brand Formative Design Raymond Loewy's MAYA philosophy appears advisable. This philosophy demands on the one hand the utmost novelty concerning new design, but, on the other hand, sets new design into a limiting context of a framework, like a brand structure or evolutionary progress (Loewy 2000).

Many examples standing for continuous design and long-term success seem to confirm the relevance of consistency in design. Coca-Cola for instance is characterized by a very continuous brand management, compared with the eternal second brand Pepsi, which is above all characterized by a frequent modification of the logo and company colours. Opel, compared to Volkswagen is a similar case: While VW always aimed at a stringent continuity, Opel again and again tried to get out of VW's shadow by using a trendy but fast outdated design.

Due to continuity, consumers can recognize products, brands or categories immediately and establish links to individual experiences, brand and product images. In this respect, design should contribute to support consumers concerning completely new products insofar as, despite the novelty of the product customers feel a certain familiarity instead of uncertainty.

Accordingly, we can conclude brand values created that in the long term may not be abandoned thoughtless in the short term by a radical or not adequate product design. If a brand has been characterized for decades by values, such as a restrained pleasant style and a certain colour combination, it would be nearly fatal to create a new product style by using dynamic forms and other colours. If a change is strived for, this should be executed in the long term strategically and wisely.

For Brand Formative Design this means to create new design as advanced as possible, but the degree of novelty depends on the products, brand and target group. While in some realms rather revolutionary progress is demanded, in other cases e.g. with very conservative consumers evolutions and changes should be executed in rather small steps. Strong and evolutionary brands derive from consistently applying a design, which incorporates brand value over product generations. Consistency here means to break down Brand Formative Design to the smallest detail. In the best case a car brand can be recognized by the design of window switches or a leather goods brand by a specific way of stitching.

BFD Driver 8: Consistent evolvement of product design

Table 3 BFD Drivers

Dimensions	BFD Drivers
Integration	BFD Driver 1: Integration of consumers in design processes
Attention and Schemes	BFD Driver 2: Evocation of attention BFD Driver 3: Refer to schemes on different levels BFD Driver 4: Deviate from schemes purposefully
Aesthetics	BFD Driver 5: Aesthetics
Personality	BFD Driver 6: Product design personalities
Design Language, Meaning and Brand	BFD Driver 7: Brand Formative Design language rules and elements BFD Driver 8: Consistent evolvement of product design

5.3 BRAND FORMATIVE DESIGN STRUCTURE

The above mentioned and illustrated elements “subject” (consumer), “context” (surroundings) and “object” (product) shall provide a concept to illuminate, link and structure Brand Formative Design Drivers and Items. Based on this structure we roughly distinguish between perceptive, passive elements (subject); judging elements (subject) moderating effects (context) and active, transmitting factors (object).

In the following we want to illuminate the subject's respective consumer's perspective concerning product design. Everything about design refers basically to the consumer receiving and evaluating signals coming from a product.

By selecting, combining and hierarchizing certain design elements designers can create meanings and messages. Referring to the above proposed BFD Drivers we propose means, we call *Brand Formative Design (BFD) Items* that can be applied in product design to create and identify specific preferences, reactions and attitudes with consumers.

However, to create brand formative product design it is not only about single BFD Items, but also *how* they are applied; accordingly we suggest a *Brand Formative Design (BFD) Structure* in order to provide a framework that integrates the consumers on the one hand and on the other hand makes the significance of BFD Items and corresponding products comparable.

SIGNIFICANCE OF DESIGN LANGUAGE IN THE CONTEXT OF BFD STRUCTURE

It can be distinguished between brand identity and brand image. Companies can influence the brand image only indirectly, for example via forms of communication like advertising or product design. Brand identity and positioning, however, are action levels of the company. Brand image refers to the effect level on the side of the stakeholders and is also subject to influences of third parties such as mouth-to-mouth advertising or bloggers (Esch et al. 2005). In the context of design, the relationship between product form and psychologically characterized reactions is moderated by the perceived aesthetic fit between product form and individual design tastes (Bloch 1995).

In analogy to the concepts of brand identity and brand image, we could apply concepts of design identity and design image: Design identity characterizes communication goals of the product intended by product-developers or companies; while design image characterizes the actually perceived effects of the product on consumers. In this respect a company can only control the design identity; the resulting impression, which a recipient has of a certain product can - as with a brand - be influenced only indirectly. In a negative case, a product can evoke with consumers completely different reactions, than planned.

Volkswagen's push into the luxury class with the Phaeton is a graphic example of a bottom-up brand mis-fit. The Phaeton is, from a design point of view, no doubt a very well designed vehicle with balanced proportions and high quality interior. Nevertheless, the vehicle does not really fit the brand image, and Volkswagen could not meet the desired economic expectations. For classic VW consumers it is too big or too expensive, and classic luxury class consumers rather prefer an Audi A8, BMW 7

Series or Mercedes-Benz S-Class. Yet, the Phaeton has certainly made a contribution to upgrade the public perception of the brand Volkswagen.

However it is not always the goal, to make products look like high quality. On the one hand, this could prevent consumers from purchasing the product, because, due to the exclusive design, they might assume that the product would be too expensive. On the other hand, higher quality products of a brand could be cannibalized. According to this fit-idea the concept of the brand-fit follows superior brand goals and aims to commonly create a holistic brand image by the support of several elements like promotion or product design.

As already discussed, to transmit brand or design identity to the public and thus create a brand respective design image designers can develop and apply design languages, which can be used similar to real languages to tell all kinds of stories. Design languages can narrate heritage related stories, referring to a brand's or a culture's history, can tell stories about technological superiority, explain intended purposes or others about their users.

Product design symbols are of high importance, because they can contribute to fast understanding and decoding of objects by consumers but also by third parties. Symbols can have a function, like warning function, by applying a specific colour combination as yellow-black. There are innumerable possibilities of symbolic meanings, beginning with brand symbols like badges or signs, but also brand related forms or shapes, like a car's front grill or the shape of a bottle. Brand symbols can also be used as social markers to differ, respective follow certain social groups. Using or not-using specific materials like leather, can imply symbolic functions. In car design leather can upgrade the perceived status; the same is true for shoes or luggage. However, avoiding the use of leather can imply a sporty or animal friendly attitude. Products themselves can also become symbols and stand for status, or a specific political attitude.

To develop unique design and brand styles, on the one hand, unique, concise and distinctive elements should be developed and, on the other hand, they should be

combined in a unique manner. Thus, products can serve as transmitters of brand messages to recipients and even translate e.g. written statements into visual ones. According to the arrangement of symbols, messages can be created. The advantage of such rules or "grammar" is that they can be applied to different objects and thus contribute to the fact that e.g. novel products can be understood by recipients without knowing them. Accordingly, we intend to apply a design language consisting of a Brand Formative Design framework and corresponding items which can be applied individually.

In the following, a framework, referring to the idea of design language is proposed. The design language "grammar" is called *Brand Formative Design Structure*, the "words" are represented by *Brand Formative Design Items*. According to certain contexts, consumers or designers can refer to this language and compose a "design statement" out of this design language.

RELEVANCE OF DISTINCTIVE DESIGN LEVELS FOR BFD STRUCTURE

Products can send brand relevant messages to consumers on many sensual levels: A consumer enters a showroom and sees a car, which communicates a certain quality. He opens the door and, due to the cool feeling of the door handle, he assumes metal which stands for quality (tactile). The same happens with the sound the door makes when it is opened or closed, it can sound cheap or of high quality (acoustic). When the consumer is sitting in the car and the interior smells of leather and wood he will get the feeling of sophistication (olfactory).

Gestalt psychologists argue that objects are viewed as a whole and not atomistic. A car, for instance, is not just an accumulation of fenders, wheels, windcreens, headlights or doors. Nevertheless, headlights or wheels are objects, which can be considered in isolation, but also have a significant influence on a car's total appearance. Every part for itself is of importance under the aspect of love for details (Bloch 1995). Accordingly, a product can be understood as a system of components, which can be combined in different kinds, aiming to generate the best possible benefit for the consumers. It is assumed that product characteristics stand in relation to each

other: Due to the manifold and individual possible combinations and expressions, it is almost infinitely complex to approach and understand an object completely (Veryzer and Hutchinson 1998).

As product design can be understood as a three dimensional embodiment of a brand, it can serve as a haptically and visually tangible synonym of the brand. Positive and negative experiences e.g. concerning quality or aesthetical appearance are directly related with the brand, and consequently increase or diminish its value. Brand value can be expressed by product design individually through countless media like colours, smells, sounds or shapes. Accordingly product design, which applies specific key frames on different levels, like certain materials, graphics, proportions shapes or colours can contribute to a unique, concise and distinctive creation of meanings.

To structure, simplify and make our research easier to compare we propose to dissect product designs into Distinctive Design Levels (DDL). This division is a fundamental base for this research and hence will be described in the following; the function and relevance of BFD Drivers and BFD Items refer to this structure.

SUBDIVISION OF PRODUCT DESIGN INTO THREE DISTINCTIVE DESIGN LEVELS

If we understand a product as the three dimensional incarnation of a brand, the same premises can be applied to the design of products like for other design relevant areas within the marketing mix. In spite of e.g. technological oriented design-processes, we assume that there is no principal difference between the design of advertising, a package or a product like a chain saw. As products can be regarded as three-dimensional brand messages, we can apply individual elements like colour combinations or certain shape characteristics that contribute to recognize products or brands faster, better und more precisely. The more a product design meets brand relevant associations and characteristics due to the use of such elements, the better it can be assigned to a brand.

Accordingly, we propose that Brand Formative Design can convey messages on different Distinctive Design Levels. This could be to express brand value by using

certain colours but also by applying specific materials, logos or shapes, which represent the brand.

If the goal shall be to express the brand characteristic “exclusivity”, this could be reached by applying wood or chrome. Of course, such elements also depend on each other: The use of certain materials like gold or silver, influences the colour; the combination of specific elements can evoke new symbolic meanings.

As an example, a chain saw of the brand STIHL is differentiated primarily by using the colours light grey and orange, along with the placement of the lettering. Although the product form is “STIHL-typical”, however, it is more performance, functional and service oriented compared to cars. We assume that average chain saw consumers can hardly recognize a “STIHL”, if colours or logos were not used. The aim is that a product can be assigned to a brand due to each single characteristic. It should be possible to recognize and assign a product to a brand on every Distinctive Design Level, beginning with the colour combination, over the shape to the surface characteristics.

To establish structure and comparability among the evaluation and creation of Brand Formative Design we propose to dissect objects into the *three Distinctive Design Levels (DDL)* “Gestalt”, “Surface” and “Graphics”.

DISTINCTIVE DESIGN LEVEL 1 (DDL1) "GESTALT"

The DDL1 "Gestalt" means the three-dimensional basic silhouette of a product referring to proportions or Gestalt, regardless if surfaces are e.g. rather round or edgy and regardless of any colours or logos.

DISTINCTIVE DESIGN LEVEL 2 (DDL2) "SURFACE"

DDL2 "Surface" refers to surface specific characteristics of the object. That means, the Gestalt "bottle" could be designed with surfaces, which are, for instance, rather edgy or round.

DISTINCTIVE DESIGN LEVEL 3 (DDL3) "GRAPHICS"

The third DDL "Graphics" is about specific brand related graphical elements like colour combinations or the use of logos.

Image 5 Distinctive Design Levels with the example of a Maggi bottle



CONCLUSION AND REASONS TO DISSECT PRODUCTS INTO THREE DDL

SIMULATION OF DESIGN PROCESSES

In design practice certain design concepts are at first object of discussion due to package relevant parameters like size or product category. In the case of the development of a new car, design underlays parameters like dimensions but also category relevant characteristics: When the task is to design a new high-class limousine, designers usually don't refer to measurements or outlines of micro cars. Proportions are a very important base for the appearance of products; if the Gestalt of an object is ugly, the most beautiful surfaces or graphics cannot save the attractiveness of a product. If you look at a black car from a distance and squint your eyes the shapes and graphics will disappear or blur in your perception but you will still see the basic silhouette and appearance of the car. The same is true of other products; if you look at the above-illustrated example of the Maggi bottle and squint your eyes you will still see the Maggi typical bottle, but it might be difficult to recognize if the

outlines are rather edgy or round. Accordingly, in design processes first of all the basic architecture of the Gestalt should be executed, before, in further steps, the surfaces themselves and their transitions are designed e.g. round or edgy, or the position of logos is determined. Following this hierarchy, we propose to apply the respective three DDL.

Of course, there exist many more DDL than Gestalt, Surface and Graphics, like specific materials, smells or others. However, these three DDL appear appropriate for this research work, because they are the most fundamental when products are designed and perceived; they can be experienced and evaluated by only looking at images of the respective product design.

COMPARABILITY

Another reason why we divide objects into three DDL is that we can obtain a higher degree of comparability among different designs on the same level. It is easier to compare only the Gestalts of identical product categories -which are however differently designed according to the same parameters- compared to different Gestalts, but also inhering different surface traits and different colours or even brands. We can also compare Gestalts of different product categories better when they differ according to product category but are designed also due to other identical parameters like e.g. symmetry.

ADAPTATION ABILITY

Products that are subdivided into three DDL can be adapted better. A product implying all DDL "Gestalt", "Surface" and "Graphics" contains many more distinctive items, which can be adapted individually, compared to products subdivided in three DDL. So it is easier to calibrate individual Brand Formative Design criteria and accordingly measure consumer preferences more precisely. Product design, which is subdivided into three DDL can also contribute that brand relevant messages can be organized more easily and transmitted from several DDL.

Division of Products into **three Distinctive Design Levels (DDL)**:
“Gestalt”, “Surface” and “Graphics”.

BFD CO-DESIGN PROCESS AS BASE FOR BFD STRUCTURE

The main focus of this research work is not only product design itself but rather consumers' preferences and their contribution in the context of Brand Formative Design development. Our goal is to *integrate consumers* in the design process and offer them a choice between various product designs, which have been developed due to specific Brand Formative Design criteria.

We want to find out which combinations out of the proposed BFD Items and DDL are relevant and preferred by consumers, but also how far the integration of consumers into design development processes effect their preferences.

Hence we want to simulate a simplified design process, in which consumers take on the role of active consumers, co-creating respective configuring products inside a given framework, with given design elements respective items and according to specific contexts. We call this approach BFD Co-Design Process.

There are different design processes according to branch, tools or design studio. Nevertheless we can say that design processes usually develop from the big into the small. This means that -as above illustrated- objects are designed first according to their measurements and proportions, secondly respecting surfaces and third according to graphical parameters like the position of logos. Of course, design processes are rarely linear but rather incremental and there are intersections between the specific Distinctive Design Levels and stages of the design process. The position of a logo or the shape of a front grill can lead to changes of a car's proportions or surfaces, but overall this happens rather rarely.

We structure the BFD Co-Design Process similarly according to design processes as they are executed in the industry and similarly to how people perceive and structure

objects. Hence, we start our investigation with the Gestalt of an object, secondly we research surfaces corresponding to the specific Gestalts and third we study respective graphics.

In realistic, typical design processes designers develop diverse proposals according to determined parameters. Depending on the development stage chief designers or/ and managers decide, which of the specific designs will find the way to the market. By making their decisions they refer to criteria as experience, market analysis or taste.

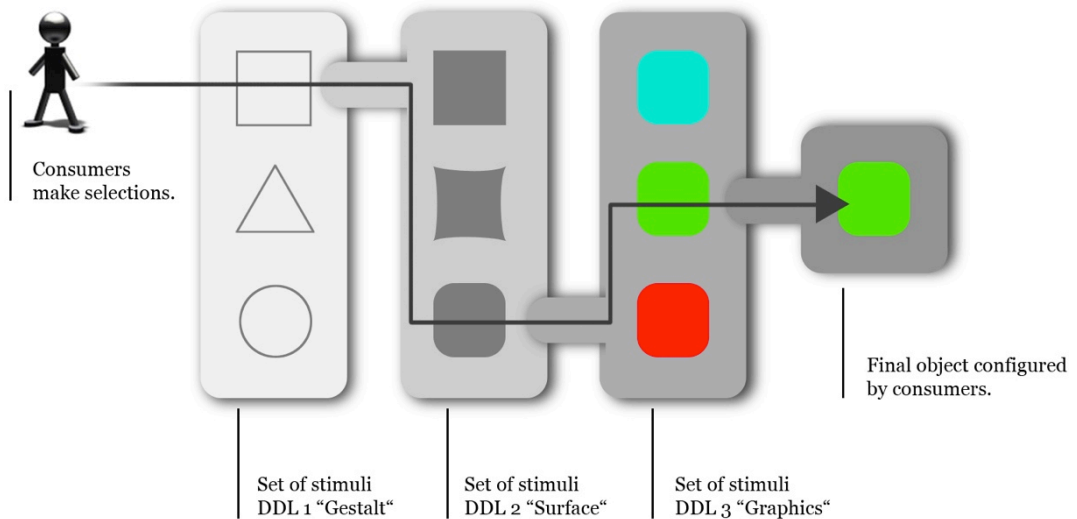
In our BFD Co-Design Process we assign a role to consumers, which is based on the combination of two functions. This role is characterized by a decisive part, which rather refers to the role of managers or consumers, and also by a creative, active part that corresponds to the work of designers.

The decisive part means that on every DDL, consumers have to choose their preferred BFD Stimulus out of a set of proposals we have been designed by applying specific BFD Items, which will be explained later in detail. By choosing and accordingly combining these given BFD Items on every DDL, consumers configure respective create their personal product individually and thus also play a creative role.

In Image 7 we show the structure of the BFD Co-Design Process: On DDL1 consumers can choose their preferred product design regarding its Gestalt out of a set of proposals which are in this case rectangular, circular or triangular. In the case illustrated here, the consumer has chosen a rectangular proportioned product. On the next level DDL2 he will be confronted with a set of BFD Stimuli, all referring to the rectangular proportioned product from DDL1, but designed according to different surface characteristics, which in this case are edgy, concave or rounded. On DDL2 he selects his preferred product with rounded edges. On the final DDL3 the consumer can choose between different graphic relevant characteristics according to the before selected rectangular product with rounded surfaces and takes the green version in this example. Finally, the consumer has co-created respective configured his own complete personal product which is coloured green, has rounded surfaces and a rectangular Gestalt. Other consumers might choose BFD Stimuli that lead to other

products, which are, for instance, triangular, have convex surfaces and are blue (Image 6).

Image 6 BFD Co-Design Process as base of BFD Structure



In summary the BFD Co-Design Process suggested here consists of three stages corresponding to the specific DDL. In each stage the consumers can choose their favourite BFD Stimulus out of a set of BFD Stimuli by us proposed and configure a complete product according to their preferences. We call this complete framework, which is based on DDL and a proposed set of product designs, *BFD Structure*.

Based on the subdivision of products into three Distinctive Design Levels and the integration of consumers within BFD Co-Design Processes we apply the above-described **BFD Structure** as an element of holistic Brand Formative Design.

5.4 BRAND FORMATIVE DESIGN ITEMS AND STIMULI

We propose BFD Drivers that contribute to create sustainable brand relevant product design and accordingly we have offered a BFD Structure that organizes a simplified BFD Co-Design Process. In a figurative sense the BFD Structure represents the “grammar” that is needed to form a sentence, which is the product. What we explain now are the “words” respective BFD Items that can be arranged in different expressions within a “grammatical” structure in order to form a specific statement.

The BFD Drivers are significant for BFD Structure, BFD Items and BFD Stimuli in different expressions. Some BFD Drivers like *BFD Driver 1: Integration of consumers in design processes* refer mainly to the way, **how** design is evaluated or co-designed by consumers and hence to BFD Structure. *BFD Driver 5: Aesthetics* on the other hand rather refers to the way product design **is** composed.

We have divided objects into three Distinctive Design Levels, accordingly we propose specific *BFD Items* and respective *BFD Stimuli* that refer to the above-mentioned BFD Drivers and the BFD Structure.

As one of our goals is to anticipate design and in this respect also to integrate consumers in design-processes we develop *BFD Stimuli* inhering specific *BFD Items* purposefully and in different expressions. As already explained, the consumers are asked to select their favourite BFD Stimulus and can thus configure, respective create their "own" product design. The elaboration of BFD Stimuli and BFD Items is explained in the following.

DEVELOPMENT OF BFD STIMULI IN THE CONTEXT OF SCHEME DEVIATION AND SCHEME CONGRUITY

There are characteristics that significantly contribute to evoke attraction with consumers, due to inborn or on experiences based conditions.

Transferred on product design, there are innumerable possibilities of stimulus categories, which can be applied individually or as a combination. Colours can significantly attract consumers, e.g. by combinations, rich in contrast or uncommon uses. Activating colour combinations are e.g. complementary contrasts like red/green or blue/orange. But even though, the colour red is a strong activating signal colour, a matt olive-green painted Ferrari might evoke more attraction because this colour is unexpected on this product. Particularly astonishing effects affect recipients short-term but can wear-off quickly as well. As soon as consumers have experienced or decoded such effects their impact diminishes. Thus it is of significance to apply stimuli that on the one hand, evoke attention but on the other hand can also contribute to keep up attraction with consumers during a product's life cycle.

Similarly, consumers relate specific, individual experience-based associations with certain forms, icons or other stimuli. Using known design or brand characteristics could intentionally create an unconscious attitude. Such familiar attributes can support consumers to classify and use products, particularly if it is about very innovative design. When recognizing familiar features, design can be categorized and understood faster; consumers might be more open minded towards a completely new design or innovation and accept novel products faster.

Besides evoking attraction, communicating brand values stringently and applying design consistently appears to be important. Hence products of a brand should speak the same language, which means that they, for instance, should have the same demands on quality and sense of form or use the same brand relevant icons or recognition features.

The first impression of a new design is caused by its visual impression. Technological performance like less fuel consumption, a stiffer structure or other functional characteristics can't be recognized as fast as a new style. The challenge is that consumers understand and accept new designs but also notice a change or benefit of new products and thus derive reasons to purchase. If a design deviates too much from known patterns, consumers might not understand and thus not accept new products.

New design can attract consumers, it inspires and is exciting; but there is also a danger that consumers might be afraid of extreme innovation.

With products like Nivea Crème or Ritter Sport it is of the utmost importance that the customer can rely on consistent quality. Thus, changes of the packaging design must be executed very carefully, because consumers could connect with a change of design also a change of quality. But there are also products, which afford a significant evolution of the design. A new car should not look exactly the same as the preceding model because consumers might aim to show that they have bought the new one. Also with capital goods it makes sense to underline technological progress by design in order to communicate new economical or technological benefits to potential buyers. Design referring too much to preceding models can lead to products, which are perceived as boring.

Sometimes it is important to leave existing tracks and to break new ground. But it is essential to understand, that it should not be the goal to use design as a form of art and to overtax average consumers by breaking taboos radically. The goal should rather be to act in the long-term relationships with consumers. In particular with fast moving consumer goods, which have a low involvement at the POS, it is very important to communicate continuity and thus reliability towards the consumers.

The degree of revolutionary or evolutionary design depends on the product category but also on the design life cycle. When there is a danger of boredom a break in design appears necessary from time to time: The Porsche 996 was a break in the evolutionary design of the 911. The Audi TT was not part of an evolutionary product succession but represented a re-invention of the complete Audi design philosophy. Nevertheless both car designs did not throw away all brand relevant values; much more, they, referred to re-interpreted and even strengthened existing icons and brand relevant values.

If we conclude the above-mentioned examples, there is a spectrum between using rather revolutionary design that deviates from the familiar and evolutionary design, which refers to the known.

Accordingly we develop BFD Stimuli implying BFD Items, which contribute to the development of Brand Formative Design from a brand-specific but also design relevant point of view. All BFD Items refer to known characteristics and thus to schemes.

How far BFD Items are applied influences scheme congruity of BFD Stimuli. The way, proposed BFD Stimuli correspond or deviate from schemes is explained in the context of the specific DDL and corresponding BFD Items in the following chapters.

5.4.1 BFD ITEMS REFERRING TO DDL1 "GESTALT"

AESTHETIC PROPORTIONS

Proportions describe the dimensions of certain elements or objects relative to each other. In a Gestalt relevant context "*proportions*" mean the relationships of planes, which form the boundaries of volumes in a specific connection with each other. Gestalt specific proportions can influence aesthetic, product category scheme and brand scheme relevant appearances of objects. A challenge in the use of aesthetics as a differentiation factor is to determine what aesthetics is indeed; aesthetics can stand for a reduced design, but aesthetics can also refer to a loud, artistic and colourful design.

Design connoisseurs who are familiar with the modular furniture system of USM Haller know that this system is about high-class furniture design and in some milieus regarded as aesthetic, they have learned about the aesthetic value of that system. Yet, the author once made the experience with a person who didn't know anything about USM Haller and expected it being bought at a DIY store. Learned aesthetics can be of a different kind and be very subjective. They can differ among social groups, cultures or epochs. Accordingly, we concentrate on two rather natural characteristics here that can be applied universally.

SYMMETRY

What humans perceive universally as aesthetically goes back to inborn preferences, patterns or proportions based on forms, proportions or shapes occurring in nature or

human beings. The feature symmetry is often associated with attractiveness; it is regarded as the most fundamental and sustainable expression of beauty. The application of symmetry contributes to perceived stability, harmony and balance; symmetrical forms can improve recognition and processing of objects (Lidwell et al. 2004). Additionally symmetrical forms seem to be perceived positively, processed faster, remembered better and liked more (Esch and Langer 2005a). Humans regard symmetrical objects and designs as harmonious; we find symmetrical elements and ornaments in all cultures and epochs. Symmetry appears in nature in various possible axes and planes; beginning with the structure of atoms and crystals to the spherical shape of planets. Also most of the flowers, animals and humans have a more or less symmetrical appearance, but we have to mention that in this case real symmetry does not exist. No human being has a perfectly symmetrical face and especially slight asymmetry leads to an interesting and unique character. Nevertheless, with industrially manufactured products this kind of slight deviation would be related with imperfect quality.

GOLDEN RATIO

Similarly there are other “natural” proportions like the golden ratio, which also stands for human proportions like Leonardo da Vinci illustrated in his famous drawing, called the “Vetruvian Man”. The golden ratio can be found in innumerable pieces of art and architectural objects. It is a logic and “natural” proportion that characterizes the relation of elements or sections with each other. This ratio occurs in many areas of nature, in flowers and also animals like snail shells. It goes back to the beginning of flora and fauna and has influenced humanity since the beginning and seems to be regarded as harmonious by human beings (Hemenway 2008) (Image 7).

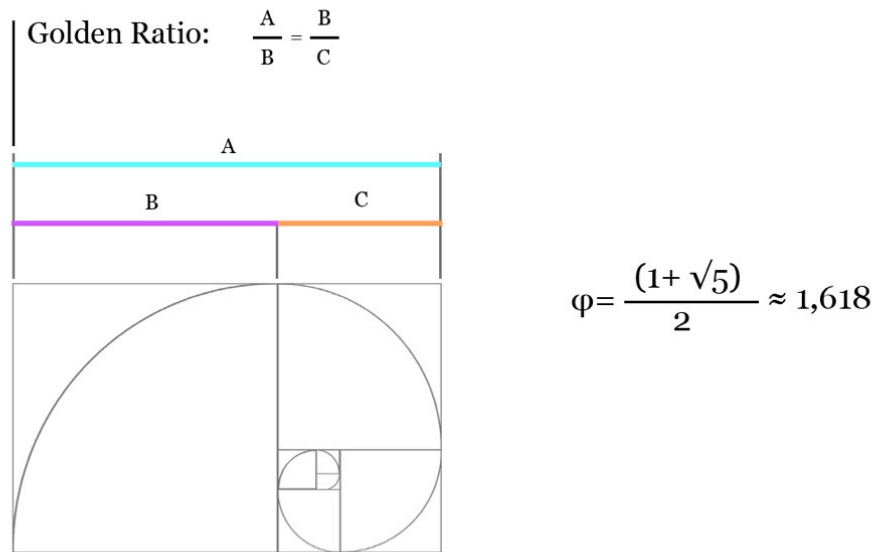
There are many examples in architecture and design perceived as highly aesthetic, which refer to the golden ratio. Furniture of Le Corbusier, Pierre Jeanneret and Charlotte Perriand like e.g. the LC3 is structured due to the golden ratio (Cassina 2005).

Also today the golden ratio can be found in many graphics and products, beginning with credit cards over TV screens and logos to Apple’s iPod (Rouleau 2009, WWW).

With the goal to create a perfectly balanced piece Patek Philippe's watch „Golden Ellipse“ has been designed based on proportions referring to the golden ratio (Patek Philippe 2012, WWW) (Image 8).

As our goal is to compare products of different realms, integrated in a BFD Co-Design Process we intend to reduce the amount and complexity of the research BFD Stimuli, but also to achieve a high level of universality. Hence, we do not refer to learned aesthetics and to animistic or human characteristics: To compare childlike characteristics applied in a car and a chain saw might be difficult due to the fact that cars have "faces" and thus imply much stronger animistic or human characteristics than chain saws.

Image 7 golden ratio



(Hemenway 2008, p.15 and 48)

Image 8 Golden Ellipse of Patek Philipp and ipod, designed according to the golden ratio



Left (Patek Philippe, Mar 1, 2012), right (Rouleau, Mar 1, 2012)

COMBINATION OF SYMMETRY AND GOLDEN RATIO

Hence for our research we apply two significant characteristics that refer to natural aesthetics, but are also implied in many products.

First we use the characteristic "*symmetry*" that from an objective point of view can be applied and assessed very easily. A product is symmetrical or not. We can distinguish between different kinds of symmetry, objects like rims or bottles are e.g. rotationally symmetrical. However, most of the products beginning with cars, over bottles to computers or furniture are axis symmetrical. Products can be clearly designed and assessed referring to the fulfilment of the characteristic "axis-symmetry". Accordingly, in our BFD Stimuli we apply "axis-symmetry" relative to product front as a characteristic, which contributes to the fact that an object is perceived as aesthetic.

Secondly we apply the characteristic "golden ratio". The characteristic golden ratio is more difficult to use than symmetry. In the case of a rectangular volume, applying the golden ratio is pretty simple. However, in the case of other objects with rather complex forms it is more difficult to "force" the volume into dimensions according to the golden ratio. If we take the example of a sports car side silhouette or a shampoo bottle front view we can see that they don't fit into to the golden rectangular completely but that there are proportions referring to the golden ratio and not disturbing but rather supporting the original design idea (Image 10).

In order to obtain design freedom and not to force a design in a framework that does not fit to the original product specific idea and scheme we apply the golden ratio only in the main view of a product. In the car design process the side view is the most important view as a base to start building design models. In the case of a shampoo bottle however the front view (in X-direction) is the most important.

Image 9 Products according to the golden ratio

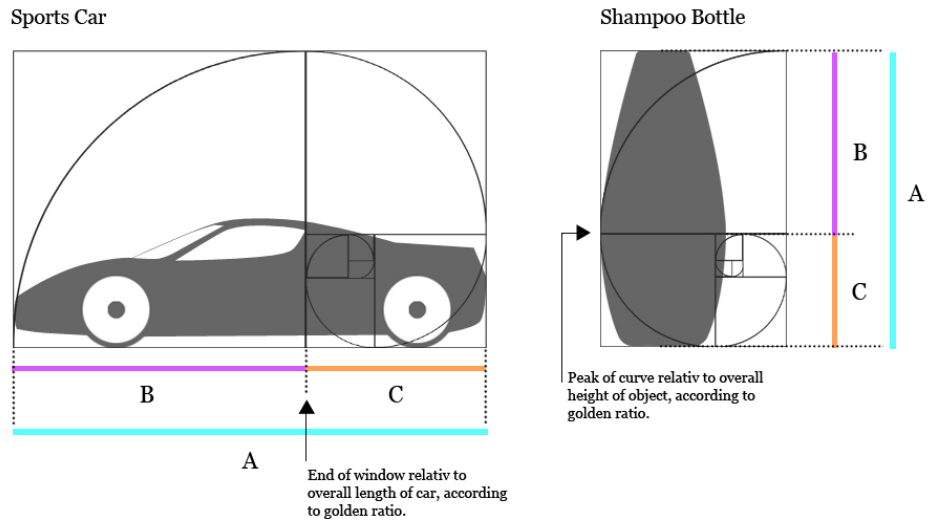
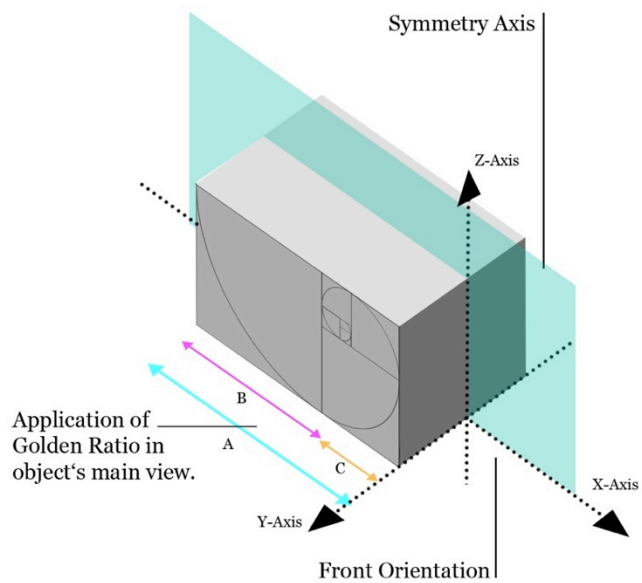


Image 10 "BFD Item1 Aesthetic Proportions" referring to axis symmetry and golden ratio



To sum up, our first BFD Item implies axis symmetry as well as golden ratio and refers to "*Aesthetic Proportions*".

Axis symmetry refers to the X-axis of the design object; that means the left and the right side of the object's Gestalt are identical. The golden ratio can be applied with

more freedom: One significant characteristic concerning the Gestalt of an object in its main view should be designed according to the golden ratio. This could be e.g. the position and size of a cup's handle in relation to the cup or the position where a car's windscreen is relative to the main body (Image 9).

The use of these criteria can be assessed in so far: Is the object axis-symmetrical, and is there any proportional relationship according to the golden ratio in the main view of the object (Image 10). As this BFD Item inherits the two different criteria *symmetry* and *golden ratio*, which are assumed to contribute to a well balanced and aesthetic appearance, we call the respective BFD Item:

BFD Item 1: Aesthetic Proportions

PRODUCT CATEGORY SPECIFIC PROPORTIONS

If we ask children in Germany to draw a car or a house, they will most probably draw a four-door car from the side with a conventional bonnet and boot, similarly the house will most probably look pretty conventional with normal windows, a door and a red roof. This example illustrates that we have certain images of objects in our mind; we expect that cars look like cars, houses look like houses and chairs look like chairs.

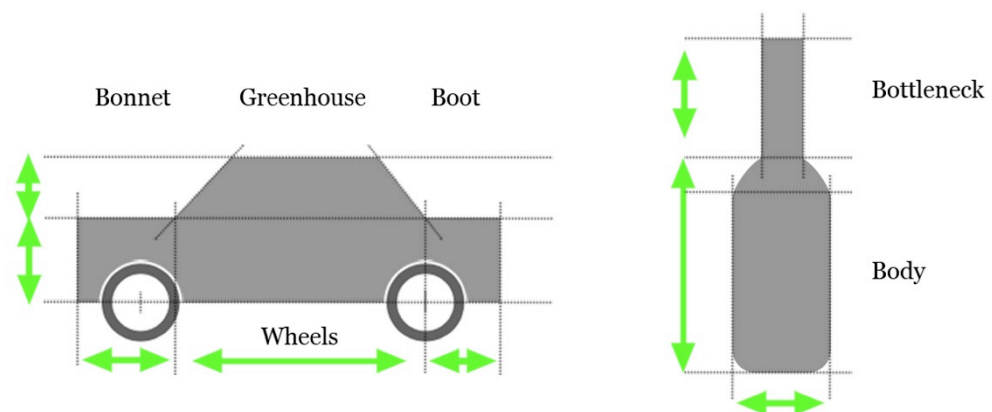
If we compare a piece of wood next to a campfire with an actual office chair, materials, functions and so on have changed of course. The basic function though, which is a plane to sit on at a certain distance above the ground didn't change significantly over time. There are learned proportions that have evolved from different reasons and evolutionary processes. A table can have different proportions due to different cultural areas. In some eastern regions, where life rather takes place on the floor, proportions of tables are regarded as normal when they are ground oriented and have short table legs. In western regions common tables are higher and made to sit with a chair at the table. Particularly in mature branches like e.g. car industry we have specific and clear schemes respective images concerning products in our mind.

On the other hand, there are revolutionary products we have never heard of before we see them for the first time and thus don't have a certain image in our mind

influencing our preference. Most people didn't have the image of an iPad in their mind and thus no attitude or preference how iPads should look like. If we go into a supermarket and look at forms of bottles we will notice that most of the bottles refer to proportions that consist of a rotationally symmetrical body and a slim bottleneck. However, dimensions, relationships and characteristics of these two proportional elements vary individually. Also a car can be reduced to its basic elements; a typical schematic car has four wheels, a bonnet, a greenhouse and in some cultures must have a boot. By adapting and changing these elements according to size and relation the car can get e.g. rather the character of a coupe, hatchback or SUV (Image 12).

Accordingly, we apply the term *product category scheme*, which refers to the typical appearance of a known product and is characterized e.g. how individual, proportional elements of an object are related with each other (Image 11).

Image 11 Prototypical car and bottle as example for product proportions.



In order to support consumers categorizing evolutionary products in a brand formative context we propose to apply proportions that refer to known product category schemes.

If product design inheres product category specific proportions (yes/no) can be assessed insofar: Different products of the same category are subdivided and structured according to significant, the form constituting elements. In the case of a bottle this would mean to structure the object into a cylindrical body and bottleneck.

The relation of body and bottleneck depends again on the product category; e.g. if it is a wine, water or a beer bottle. Of course, wine bottles of the same category but coming from different manufacturers can differ; nevertheless an approximate, typical volume can be identified with which the respective product design can be compared.

To improve application, comparability and assessment of the specific BFD Item we apply proportions, which are significant in the context of an object's main view. In the case of a car or a chain saw this would be the side view, in the case of a shampoo bottle the front view.

BFD Item 2: Product Category specific Proportions

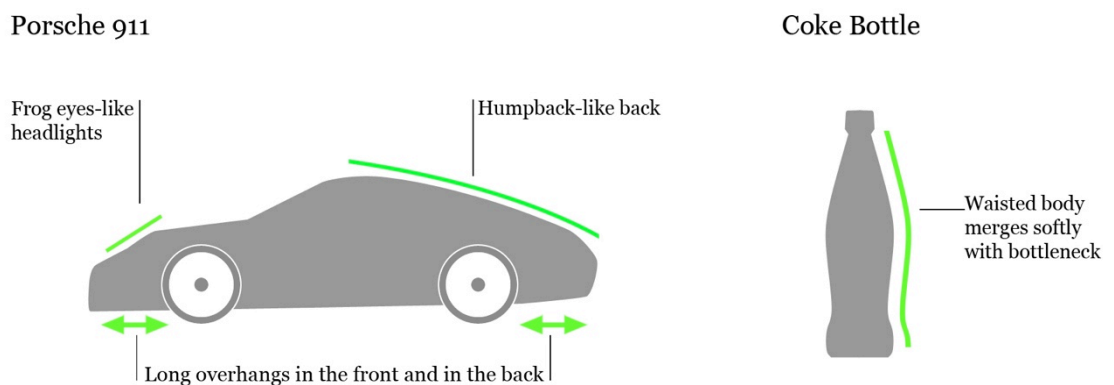
BRAND SPECIFIC PROPORTIONS

Proportions of products do not only refer to aesthetics or product specific characteristics but also to brand specific parameters. Particularly the unique proportions and outlines of product packages like of Odol or WC-Ente are the reason why these products can be easily recognized in a brand relevant context. Even if there were no logos or colours referring to the brand WC-Ente, the product package could be assigned to WC-Ente. Products implying brand specific proportions are not only easier to relate with a brand, brand specific proportions can also be transferred across products. The typical Coke bottle form is, for instance, also implied in the design of fruit gums. Nutella uses an abstracted form of its typical glass-jars also for small plastic packages, as they are used e.g. in hotels. Another illustrative example is the Porsche 911. The proportions of this car go back to the original Volkswagen Beetle and have evolved during several product generations. The proportions of a 911 Porsche are so unique that the car can be identified immediately as a Porsche, even without applying any brand relevant logos, window graphics, headlight shapes or other branding elements. These specific proportions referring to the profile of a wing, with the long humpback-like roof, frog-eye-like fenders and long overhangs in the front and in the back make a 911 a 911. The proportions of this car refer to the *product-brand* 911 but also to the *brand* Porsche. Compared to a 911 the SUV Porsche Cayenne inheres different proportions and is not as unique as the 911, but still refers in a weakened and

product specified form to 911 and Porsche specific characteristics. The Porsche Panamera however implies, respective extends 911 specific proportions with its long overhangs and humpback roof; but its wheelbase is much longer and the slope of the roof falls more steeply to the back (Image 13).

The goal should be that even without using a brand distinctive element like colour combination or logo, products can still be easily associated with a specific brand: In the optimum a product can be assigned to a specific brand in every colour and without any logos or icons, similar to a Porsche 911 or a Coke bottle (Image 12).

Image 12 Examples of products implying brand specific proportions



If we look at other cars such unique proportions a very rare, however there are at least weaker distinctive proportions: BMW traditionally applies proportions with rather small overhangs in the front and longer overhangs in the back. However most of the products don't have as unique proportions as the above-mentioned examples. Even if we look at strong brands like Apple, the iPhone is, regarding it's fundamental proportions, not significantly different from the competing smartphones of Nokia or Samsung.

Proportional uniqueness regarding brands is usually based on a design, which has been evolved evolutionary and consistently over decades. Accordingly, for new branches or brands it is not so easy to refer to brand relevant proportions, yet, whenever it is possible to imply brand relevant proportions this opportunity should be taken.

Brand relevant Gestalt proportions refer to three-dimensional appearances; Porsche 911 proportions are more than overhangs or roof shape, but also back fenders and the shape of the front hood. But to simplify the assessment and comparability of brand relevant proportions we refer to proportions based on the silhouette of the product's most important view. To identify, apply and assess brand-specific proportions we suggest analysing the most important and well-known products of a brand and the specific preceding product. Accordingly, distinguishing and unique brand specific proportions can be identified and applied.

BFD Item 3: Brand specific Proportions

DEVELOPMENT OF DDL1 BFD STIMULI ACCORDING TO BFD ITEMS 1-3

Referring to the Distinctive Design Level 1 (DDL1) "Gestalt" we create different product designs, respective BFD Stimuli inhering the above-mentioned characteristics "*Aesthetic Proportions*", "*Product Category specific Proportions*" and "*Brand specific Proportions*" in different expressions.

To create BFD Stimuli implying moderate scheme incongruity we disregard per BFD Stimulus one of the proposed BFD Items. Disregarding one Gestalt-relevant BFD Item would mean in the case of a washing machine e.g. to design a cylindrical body instead of a product category specific cube-shaped body. However BFD Items "*Aesthetic Proportions*" and any "*Brand specific Proportions*" would still be applied and thus moderate scheme incongruity. Besides creating BFD Stimuli deviating from one scheme we also provide one BFD Stimulus that is completely scheme congruent and implies BFD Items 1-3. Accordingly we obtain in DDL1 four differently characterized BFD Stimuli corresponding to, respective deviating from respective schemes.

BFD STIMULI REFERRING TO DISTINCTIVE DESIGN LEVEL 1 (DDL1)

DDL1_BFD_S1: INHERING AESTHETIC, PRODUCT CATEGORY AND BRAND SPECIFIC PROPORTIONS

Distinctive Design Level 1, BFD Stimulus 1 (DDL1_BFD_S1) inheres all characteristics we defined for DDL1. This BFD Stimulus is designed according to product category scheme, brand scheme and inheres symmetry and golden ratio. In the case of a Maggi bottle this would mean to develop the BFD Stimulus that it looks like a bottle. The Gestalt should contain brand specific characteristics, like the typical four-sided, angled Maggi bottle silhouette with its long bottleneck. As third characteristic the bottle should be designed in a way considering symmetry and golden ratio, e.g. respective the ratio between the bottleneck and body.

DDL1_BFD_S2: REFERRING TO AESTHETIC AND PRODUCT CATEGORY SPECIFIC PROPORTIONS

DDL1_BFD_S2 refers only to BFD Item 1 and 2 and disregards brand specific attributes. Concerning a Maggi bottle this would mean to design an object, looking like a symmetrical bottle referring to the golden ratio but which can't be recognized as the typical Maggi silhouette.

DDL1_BFD_S3: APPLYING AESTHETIC AND BRAND SPECIFIC PROPORTIONS

In the case of *DDL1_BFD_S3* we propose a stimulus inhering product category scheme deviation. This means, the BFD Stimulus refers to aesthetic (BFD Item 1) and brand specific proportions (BFD Item 3) but implies untypical product specific proportions. In the case of a Maggi bottle this could mean that the object inheres Maggi typical proportions, is designed symmetrically and according to the golden ratio, but does not look like a bottle. It could, for instance, be a bottle having the bottleneck on the side and not on the top.

DDL1_BFD_S4: IMPLYING PRODUCT CATEGORY AND BRAND SPECIFIC PROPORTIONS

BFD Stimulus DDL1_BFD_S4 contains BFD Item 2 and 3, referring to product category specific proportions and brand specific proportions. With the example of a Maggi bottle this would mean to design the Gestalt looking like a bottle referring to Maggi typical attributes but neglecting symmetry and golden ratio.

Table 4 Characteristics of BFD Stimuli regarding Gestalt

BFD Stimuli in DDL1 "Gestalt"	DDL1_BFD_S1	DDL1_BFD_S2	DDL1_BFD_S3	DDL1_BFD_S4
BFD Item 1: Aesthetic Proportions	X	X	X	-
BFD Item 2: Product Category specific Proportions	x	X	-	X
BFD Item 3: Brand specific Proportions	X	-	X	X

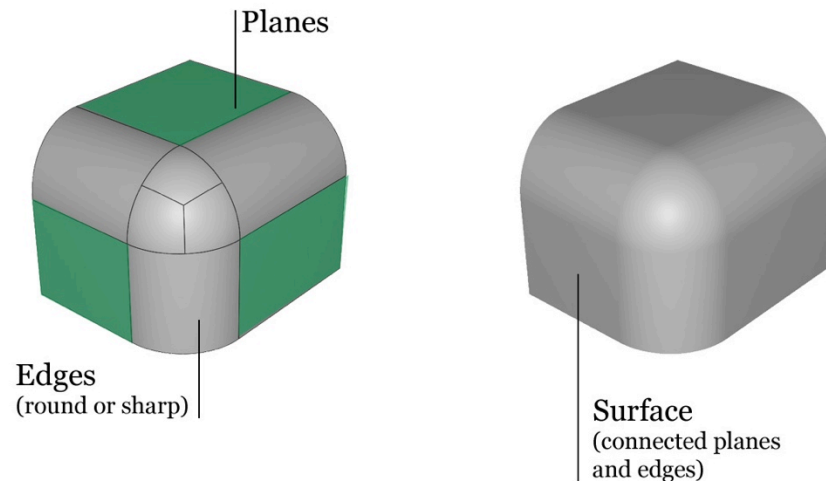
5.4.2 BFD ITEMS REFERRING TO DDL2 "SURFACE"

Above we have described Gestalt as arrangements of planes that form volumes. In the areas where the planes meet there are edges, transitions or intersections. At these edges planes can merge in different kinds, e.g. with sharp angles or soft and smooth transitions.

In order to improve explicability in the following text, we distinguish between the terms "*surface*" and "*plane*" although they could be used as synonyms (Image 14).

Figuratively speaking we understand the Gestalt of an object as a framework, which is wrapped by interconnected, differently characterized planes. We call this interrelated system of *planes* and *edges* "*surface*". Surfaces can imply different kinds of characteristics regarding roundness of edges or applying curved or flat planes.

Image 13 Definition of the terms plane versus surface



Surface characteristics can refer to semantic meaning; rather sharp or hard looking objects could communicate danger or aggression, soft appearing surfaces warmth, friendliness or secureness. There are many associations and surface characteristics, connected with semantic terms like "dynamic", "masculine" or "floral". Surfaces sometimes also stand for specific brand values: Apple applies rather flat, enclosed and reduced surfaces, while the brands Porsche or MINI stand for the application of round, soft-looking surfaces. Of course, some companies change brand relevant surface characteristics over time. In the past, electronic goods manufacturer Braun stood for reduced geometrical surfaces, today some Braun devices also contain complex mixtures of concave and convex planes.

Regarding the research of different form characteristics we can notice that forms are mostly divided into two groups. On the one hand according to characteristics, which imply the words curvature, curved, round or roundness and, on the other hand, according to the terms edge, sharp, angled or straight. Thus surfaces can be characterized as rather round or edgy, but of course there are many examples where the borders between rather edgy and rather soft forms merge; examples illustrate that there are more surface characteristics than just "round" or "edgy". If we look at an actual Porsche 911 most people would call the form "round" while a Lamborghini Gallardo is most probably called "edgy". Yet, there are cars like the third generation

Mercedes-Benz A-Class or the VW Golf VII where it is difficult to say if surface characteristics are rather "round" or "edgy".

Often, certain designs or styles -particularly in the area of automotive design- are described with terms like "dynamic" or "masculine". The problem with this kind of semantic descriptions is an objective and comparable use. People of different cultures, professions or other backgrounds might have different associations with the term "masculine". Cars can appear "masculine" when they are rather edgy like Lamborghinis but also when they are rather round, like an AC Cobra or Jaguar E-Type. Such descriptive terminologies refer also to trends or fashions. In this context there are countless possibilities how surface characteristics and styles of products can be designed and called.

Due to these semantic classifications hardly to objectify we subdivide objects and their surface appearances into differently characterized planes and their mutual relations and connections.

PLANES AND THEIR CONNECTIONS AS CONSTITUTIVE ELEMENTS OF SURFACE CHARACTERISTICS

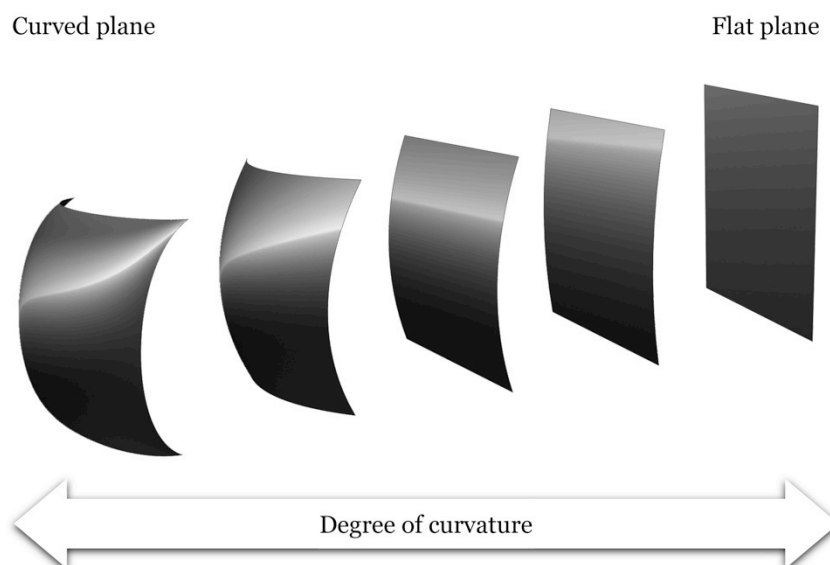
Volumes respective products consist of different planes in which number, position or characteristics can differ. A sphere consists of one, while a cube consists of six planes. The basic volume of an iPhone 5, is based on six basic planes while the volume of a Porsche 911 comprises a multitude of merged planes. In the following, we want to illustrate different characteristics of planes and their intersections. Accordingly we want to propose different groups representing specific combinations of planes and their intersections, which are based on geometrical attributes instead of semantic descriptions. First we illustrate characteristics of single planes, then we describe the relationships and intersections of the specific planes with each other and the way the corresponding total surface or "skin" "embraces" a volume respective Gestalt.

CHARACTERISTICS OF PLANES - FLAT PLANES AND CURVED PLANES

Often there are flat planes, but there are also innumerable ways how planes can be bent. Beginning with planes that are bent in one direction over planes, which are regularly curved in two directions to completely free-formed planes.

Products can have differently characterized planes. If the planes are rather flat or curved may be due to the design, brand, manufacturing processes, material or product category. For example, furniture like tables or shelves typically have flat planes. Also products like white goods, hi-fi devices, machines or computers have often flat planes. Furthermore, products of certain brands like Apple, KTM or in the past Braun are characterized by rather flat planes. Yet, there are also product categories or brands where flat planes are very rare. In this case the characteristics of planes refer to different parameters. This can be as in the automotive industry due to aerodynamics and safety or due to brand value with the example of round shaped Scandyna hi-fi speakers.

Image 14 Degree of curvature: Curved planes versus flat planes



As already stated there are infinite ways how planes can be formed. Due to this variety and complexity we divide characteristics of planes into the groups "*flat*" and "*curved*".

Flat planes means that the lines, which form the planes, are straight. However, according to product category flat appearing planes are not necessarily perfectly flat. Particularly in automotive design, products are more or less huge optical illusions. Due to the size of a car and the perspective perception of recipients, large and completely flat planes would appear concave or hollow. To counteract this impression designers vault such planes slightly to make them appear flat. Of course, in the case of other products like tables, computers or others, flat looking planes are flat indeed. Consequently, by the term "flat" we mean surfaces that appear flat, even if they inhere a small degree of curvature (Image 14).

Curved planes means that at least one of the lines, which form a plane is curved and consequently the plane itself is bent. In contrast to real flat planes there are innumerable different possibilities of curved planes, depending on the degree of curvature, planes are convex, concave or both, and in how many directions the plane is bent. However as above described, also slightly bent planes can appear curved, thus we call a plane curved when it looks curved, regardless of degree, direction or other characteristics.

This means for the design of our stimuli that we apply "*flat*" and "*curved*" planes; a more detailed distinction appears not practical in this work.

BFD Item 4: Flat Planes

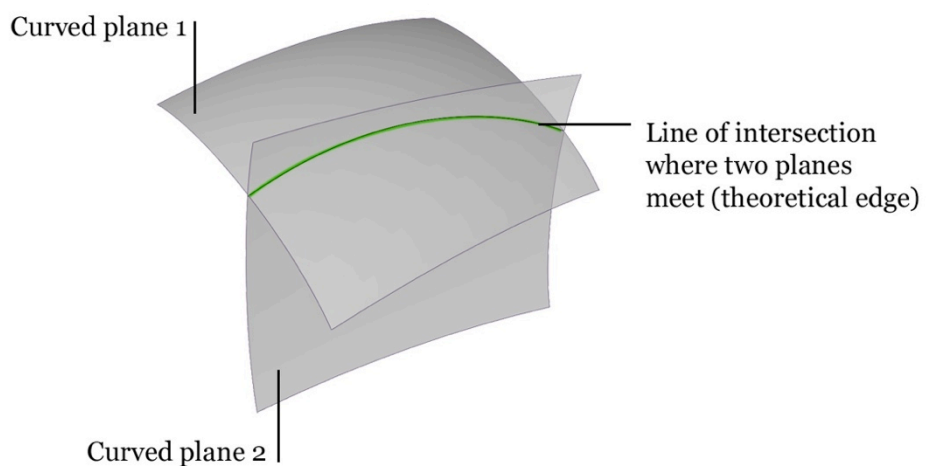
BFD Item 5: Curved Planes

CONNECTIONS OF PLANES - ROUNDED EDGES AND SHARP EDGES

Above, we have introduced planes and their different characteristics, now we discuss the possibilities how these planes can intersect and accordingly form *edges* and *corners*.

We call the area where two planes meet and intersect "*edge*". The course and characteristic of the edge respective line of intersection depends on the shape of the intersecting planes. If two flat planes intersect, the edge will be a straight line, but if at least one intersecting plane is bent the edge will be a curved line. The appearance of such curved lines, however, can differ according to the point of view from which the recipient is looking at that line. It can be that such a line looks like a straight line from one perspective while from another view it looks like a curve (Image 15).

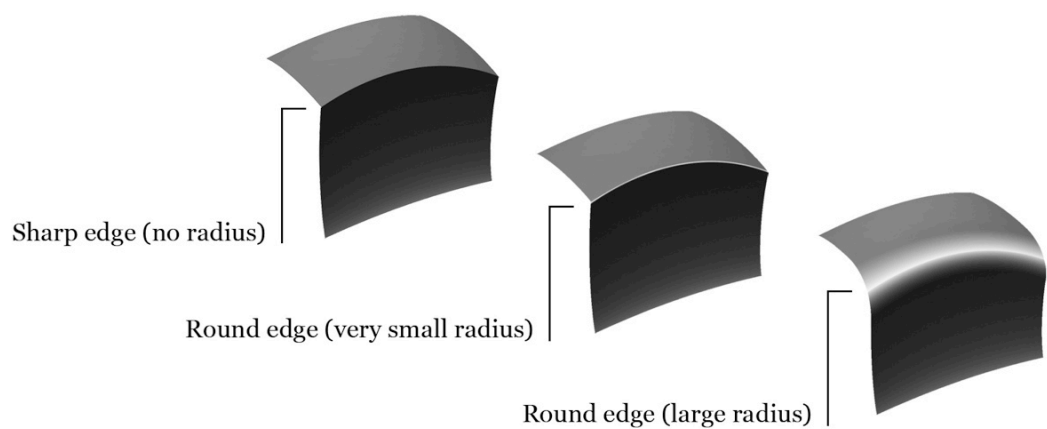
Image 15 Line of intersection where two planes meet



In design practice these edges are also called "theoretical edges" because they are used to control and optimize e.g. proportions and appearances of products. They are called "theoretical" because they are not necessarily perceptible in the final design. These edges can be softened in different degrees. There are innumerable ways how transitions between two planes can be executed; a rounded edge can have a small radius at the beginning and a large one at the end or the same radius all over. Hence, edges can be rounded in different expressions and depending on their markedness and number, a product can appear hard, edgy, round or soft. The characteristics of edges are the base of the appearance of corners: If all edges have no radiuses, the corresponding corners appear very sharp, but if all edges are rounded very strongly the corner disappears. There are also corners, where a number of edges are soft and others are sharp. Characteristics of roundness, number or course of edges form the appearance of corners and thus of total bodies and product designs.

Depending on the size of the radius an edge appears very soft and two planes can even merge visually, while by applying very small radiuses objects can appear very sharp. In reality edges, which appear very sharp, still have very small radiuses, in automotive design the sharpness of edges are also subject to law or manufacturing relevant parameters. Hence we do not refer to the geometrical size of a radius, but if edges appear sharp or round: Edges might appear sharp in the case of a Lamborghini, while the same radiuses applied in the design of an Apple computer would look soft (Image 16).

Image 16 Sharp edge versus round edge



Because of the large amount of design relevant possibilities how edges can be softened, we distinguish between the characteristics "*round*" and "*sharp*" edge.

BFD Item 6: Round Edges

BFD Item 7: Sharp Edges

DEVELOPMENT OF BFD STIMULI ACCORDING TO BFD ITEMS 4-7

As above explained we propose the four basic characteristics respective items: BFD Item 4: Flat Planes, BFD Item 5: Curved Planes, BFD Item 6: Round Edges and BFD Item 7: Sharp Edges, which lead in different combinations and uses to certain surface-relevant appearances of products. According to these characteristics we can analyse, group and consequently compare and objectify products. Products can inhere flat and curved, as well as only curved or flat planes, the same is with soft and/ or round edges.

There are nine different possibilities how flat or curved planes can be combined with round or sharp edges.

CONDENSATION OF COMBINATORY POSSIBILITIES AND CORRESPONDING BFD STIMULI REFERRING TO DDL 2

The borders between the different combinatory possibilities are theoretically precise, however in practise a clear distinction and classification might not be easy. We design BFD Stimuli according to these surface characteristic relevant combinations, which shall later on be selected respective co-designed by probands according to personal preferences. Nine different -for design laymen hardly distinguishable- BFD Stimuli could lead to confusion and imprecise evaluation. Thus we propose to reduce and conclude combinatory possibilities into groups.

If we look at the nine different combinatory possibilities from flat planes with sharp edges to curved and flat planes with sharp and round edges there are combinations, which in practice occur more often than others. There are car designs implying rather flat but also curved planes in combination with round edges: At the back of a 1962 Ferrari 250 GTO there is a rather flat plane, however the car looks round and soft. The same is true for product design of other categories and branches. Philippe Starck's desk "Baobab" appears round despite its flat top; also in the case of FMCGs like the SCHAUMA Shampoo Bottle, there is a little flat plane on the top but the bottle still appears round. It is similar the other way round: Objects applying mainly flat planes still appear rather flat, although one plane might be bent. Consequently, we do not distinguish strictly between objects inhering only curved or only flat planes and objects inhering both, flat and curved planes. We propose differing design according to objects applying *mainly curved* **or** *mainly flat* planes. To simplify the text in the following we leave the term "mainly" and call respective planes "flat" or "curved".

In automotive design -regardless of zeitgeist and sales numbers- there are surface characteristics, which can be found on the market rather rarely. The combination of curved planes with sharp edges has scarcely been applied. Even products with rather sharp looking surfaces like BMW's first generation Z4 inhere round edges in the front

and side area; also in product design the combination of curved planes with only sharp edges is pretty rare and additionally a clear distinction between objects inhering curved surfaces with round and sharp edges might be difficult. Accordingly, we don't apply the combination of sharp surfaces with curved planes in our BFD Stimuli.

The combination of flat planes connected only by round edges is not unusual in product design: Wesco breadboxes, LaCie external hard drives, the MacBook or other Apple devices and accessories are designed according to this combination. The Hannover tram, created by Jasper Morrison also combines flat planes with round edges. However, in the appearance, a distinction with objects inhering flat planes with round and sharp edges and also with curved planes and round edges might be difficult for laymen at first glance. To make all stimuli easier to assess we don't use the combination of flat planes with round edges only. After the exclusion of a group of combinatory possibilities four surface relevant combinations are left.

DDL2_BFD_S1: COMBINING CURVED PLANES WITH ROUND AND SHARP EDGES

In today's automotive design many products contain curved planes combined with sharp but also round edges like e.g. the third Generation Mercedes-Benz A-Class or the Ferrari 458. If we look at package design of shampoo bottles or flacons, at contemporary but also at ancient furniture like e.g. art nouveau, there are many examples of curved planes combined with sharp and round edges. Accordingly, we propose DDL2 BFD Stimuli applying curved planes combined with sharp and round edges (Image 17).

Image 17 Examples of products curved planes with sharp and rounded edges



Images clockwise: Chair Lago (Starck, Jul 30, 2013a), NewWave tea cup (Villeroy & Boch, Aug 27, 2012), Serralunga Vase (Serralunga, Aug 27,2012), Mercedes-Benz Concept A (Mercedes - Auto Motor und Sport, Aug 27, 2012)

DDL2_BFD_S2: COMBINING CURVED PLANES WITH ROUND EDGES

The combination of curved planes with round edges is pretty common in product and automotive design. Famous and successful car designs like the MINI Cooper or the Porsche 911 are good examples for round appearing products. But also in other branches round design is applied successfully, beginning with famous furniture of Charles and Ray Eames to Scandyna hi-fi speakers. Since research identified positive effects of soft forms and many products of different categories imply such shapes, we propose to design BFD Stimuli according to the combination of curved planes with round edges (Image 18).

Image 18 Examples of products with curved planes and round edges



Images clockwise: Baobab desk (Starck, Jul 30, 2013), La Chaise (Vitra, Aug 24, 2012), SmallPod (Podspeakers, Jul 30; 2013), Renault DeZir (Hans-Dieter Seufert - Auto Motor und Sport, Jul 30, 2013)

DDL2_BFD_S3: COMBINING FLAT PLANES WITH SHARP EDGES

The combination of flat planes with sharp edges is very common across different product categories. Successful car design like the first generation Volkswagen Golf or Mercedes-Benz 190 is based on this combinatory possibility. But also products like hi-fi devices, computers and furniture like Philippe Starck's Toy chair or Konstantin Grcic's Chair One refer in different expressions to this design characteristic. Products referring to this expression are looking unique compared to other combinations; therefore BFD Stimuli applying the combination of flat planes with sharp edges are offered here (Image 19).

Image 19 Examples of products combining flat planes with sharp edges



Images clockwise: Acer Predator (Chip, Jul 30, 2013), Wally 118 Yacht (Wally, Aug 24, 2012), Magis Chair One (Grcic, Aug 24, 2012), KTM X-Bow (KTM, Aug 24, 2012)

DDL2_BFD_S4: COMBINING FLAT PLANES WITH ROUND AND SHARP EDGES

Many products particularly of the brands Apple and Braun refer to the use of flat planes in combination with sharp and round edges. If we look at the iPhone 5, iMac computers or ancient Braun radios, they are all characterized by this machined appearing design. But also pieces of furniture like Joe Colombo's rolling container "boby" stand for this category. In automotive design this formal combination is not as widely represented, nevertheless there are cars like e.g. the Land Rover Defender, Range Rover or Volkswagen Up! that could be associated with that group and apply rather flat planes with round and sharp edges (Image 20).

Image 20 Examples of products combining flat planes with round and sharp edges



Images clockwise: iMac (Apple, Aug 24, 2012), B-Line boby (B-Line, Jun 30, 2013), Interstuhl Silver (Interstuhl, Jun 30, 2013), VW Up! (Volkswagen, Aug 24, 2012)

Table 5 BFD Stimuli in Distinctive Design Level 2

DDL2 BFD Stimuli	DDL2_BFD_S1	DDL2_BFD_S2	DDL2_BFD_S3	DDL2_BFD_S4
BFD Item 4: Flat Planes	-	-	x	x
BFD Item 5: Curved Planes	x	x	-	-
BFD Item 6: Rounded Edges	x	x	-	x
BFD Item 7: Sharp Edges	x	-	x	x

5.4.3 BFD ITEMS REFERRING TO DDL3 "GRAPHICS"

Beside specific Gestalt and surface characteristics, graphical elements respective *graphics* are often the most important signs by which products can be related with certain brands. With graphical elements we mean signs or signals of rather two-dimensional kind. Such graphics can be of different kinds, beginning with specific colours over logos and lettering to icons as in the case of cars front grills or the outlines of headlights. The term "graphics" originally refers to rather two-dimensional objects like illustrations, images or websites. However, elements like front grills of cars are of three-dimensional kind, nevertheless we understand products as "three-dimensional canvas" and due to simplification reasons we apply the term "graphics" to all iconographical elements that refer to brand value, regardless if it is just about specific colours or rather three-dimensional icons. Graphical elements contribute to the fact that objects can be associated with specific brands, branches and product categories. Products of Bosch power tools, for example, apply different colours according to target group; the machines for professional users are blue, for yourselves green; the company Kärcher applies the colour yellow, but in the case of professionals grey. Milka always uses the colour mauve while Ritter Sport assigns colours to specific chocolate sorts. Similarly the shampoo brand Head&Shoulders applies the colours blue and white while Schwarzkopf SCHAUMA applies different colour combinations according to types.

LOGOS

The most applied graphical element is the logo, respective lettering or badge. Typically, a logo is a graphical mark, which assigns a product with a brand. There are very famous and well-known logos, that, only by applying them, create a certain image in the recipient's imagination, like the Mercedes star, the Coco-Cola lettering or the Apple logo. Logos can be applied in various kinds. As stickers or embossed reliefs, as three-dimensional sculptures like the Rolls-Royce "Spirit of Ecstasy" or as illuminated logos like the Apple logo on MacBooks. In this respect, logos can be placed at different positions; in the case of cars, logos are mostly positioned at the front and depending on the brand also at the back. It can be that different kinds of logos, representing the same company are applied in one object. In the case of a Ferrari a small rectangular, yellow badge, a silver horse or a yellow coat of arms represent the brand.

Yet, it seems to be generally known and accepted that logos have a significant influence on product preferences. This means that consumers most probably prefer STIHL Chain Saws with Stihl logos compared to STIHL Chain Saws without logos. We expect the same with products like SCHAUMA shampoo or cars. Accordingly, we regard brand logos as fundamental base for Brand Formative Design, take their application for granted and apply logos on all BFD Stimuli.

MOST SIGNIFICANT DISTINCTIVE GRAPHICAL ELEMENT (MSDGE)

Colour combinations are widely used as distinctive design element: Milka, STIHL, John Deere or Linde MH are brands, which stand clearly for specific colours respective colour combinations. John Deere agricultural products, with their green body and yellow rims can be recognized from far distances without perceiving the logo or surface and Gestalt details. However, there are products where specific colour combinations don't play such a distinctive role. In the case of cutlery the product colour is silver due to the applied material metal, while in automotive design customers can select their preferred individual colour. In such cases other graphical elements are applied to communicate brand affiliation. Concerning silverware these can be embossed punches or engraved logos. In the automotive industry the "faces" of

a car serve as significant brand relevant attributes. Depending on car and brand, such faces are characterised by shape and position of front grills or the outline of headlights.

Yet there are products or categories where graphical elements communicating affiliation with certain brands are not visible or applied at all. In the case of furniture graphical elements representing a certain brand are rather rare. While some companies like Fritz Hansen, Lignet Roset, Fatboy or Interstuhl apply little textile labels with their logos, others like Vitra, DeSede or Ikea hide their brand signs and put them at rather invisible areas like the product's underneath. In these categories products are often associated with designers instead of the manufacturing companies; it can be that identical designs are produced respective distributed by different companies. Manufacturers like Vitra, Hermann Miller or Magis sell the identical designs of personalities like Charles and Ray Eames or Konstantin Grcic.

As the above-mentioned examples show, relevant brand distinctive graphical elements can differ significantly according to brand and particularly also according to product category. Hence, distinctive brand elements should be compared not due to the type but rather due to common application.

This means, if we want to create DDL3 BFD Stimuli according to the same framework, it does not make sense to apply the characteristic "specific colour combination". This would make sense if we would refer only to products, which apply colour combinations as brand distinctive elements, like power tools, chain saws or tractors. However, it is not appropriate, if we investigate the design of different product categories, like chain saws with cars. Consequently we concentrate on the *Most Significant Distinctive Graphical Element (MSDGE)* of a specific product category or brand. To identify these elements we analyse products of identical branches and brands.

In the case of e.g. agricultural vehicles there are identical products which are sold under different brands and differ only due to logo and colour combination. Examples are companies like already mentioned tractor manufacturer Same Deutz-Fahr, which

sells more or less identical tractors under different brands that differ according to logo and colour combination (Image 21). Also the company AGCO sells similar products due to the brands Fendt, Massey Ferguson and Challenger in different colours. After the firm Claas acquired Renault's tractor production -beside the logos- first of all the colours of the tractors were changed from Renault's orange with white rims to the Claas colours with the green body, white roof and red wheels. Hence we propose that the most distinctive brand relevant graphics element in the branch of agricultural vehicles is colour combination. The same is for products like forklifts, power tools, chains saws or high-pressure cleaners.

Image 21 Colour combination as MSDGE in the case of tractors.



Images from left to right: (Deutz-Fahr, Mar 13, 2013), (Huerlimann Tractors, Mar 13, 2013), (Lamborghini Tractors, Mar 13, 2013). (Same Deutz-Fahr, Mar 13, 2013)

However, there are other branches where the MSDGEs are of different kind. Similarly, as with the above-mentioned examples, we look at identical products, which are distributed under different brands. In the automotive industry there cars, which are distributed by the same company but under different brands: Volkswagen Group sells the VW Up! also as Seat Mii and Skoda Citigo. But there are also cases where competing companies develop and produce more or less identical cars together but distribute them under different brand names like the first generation Ford Galaxy and VW Sharan or currently the Renault Kangoo and Mercedes-Benz Citan (Image 22). If we look at these instances the MSDGEs are front and back areas, with individual grills, head- and backlights and bumpers.

Image 22 Car fronts/ grills as MSDGE

Mercedes-Benz Citan



Renault Kangoo



Top (Mercedes-Benz, Mar 13, 2013), below (Renault, Mar 13, 2013)

In branches where design development and tooling costs are less expensive, compared to the automotive industry the distribution of identical products by different companies is rather unusual.

If we look at FMCGs like shampoo packages we can notice that producers apply the same containers to different sorts of shampoo and accordingly adapt their distinctive graphical elements. In this respect, brands follow different strategies. Head&Shoulders applies labels showing different coloured motives like flowers or waves according to specific sorts, but always uses the white coloured body with the blue cap to differentiate from competitors. SCHAUMA, on the other hand uses many different colour combinations according to sort, but SCHAUMA always applies the same (male or female) face as significant, iconic graphical distinctive element. Consequently, in the case of Head & Shoulders the Most Significant Distinctive Graphical Element is colour combination, while in the case of SCHAUMA it is the picture of a human face (Image 23).

Image 23 Colour combination or face with logo as Most Significant Distinctive Graphical Element

head&shoulders



schauma



Colour combination



Face



Left (Headandshoulders, Mar 13, 2013), right (Schauma, Mar 13, 2013)

To conclude, there are different possibilities of brand relevant distinctive graphical elements according to company, brand or branch. Which is the most significant must be analysed individually and applied accordingly.

BFD Item 8: Most Significant Distinctive Graphical Element (MSDGE)

DEVELOPMENT OF BFD STIMULI ACCORDING TO BFD ITEM 8

Table 6 BFD Stimuli in Distinctive Design Level 3

DDL3 BFD Stimuli	DDL3_BFD_S1	DDL3_BFD_S2
BFD Item 8: Most Significant Distinctive Graphical Element	x	-

DDL3_BFD_S1: APPLICATION OF LOGOS AND MSDGE

In DDL3 BFD Stimulus S1 we apply logos and MSDGE, which are particularly relevant in respective product categories or companies. By applying BFD Item 8 and logos we get products with a high degree of brand relevant memorability and associations. In the case of cars this would be applying front grills and faces with logos, in the case of tractors, specific colour combinations together with logos and with the example of shampoo bottles this could be applying logos and certain brand relevant labels and colours.

DDL3_BFD_S2: APPLICATION OF LOGOS BUT NO MSDGE

In this case despite logos no other brand relevant hints or signs are applied. In the case of BMW cars we would apply only the logo, but leave out the use of the typical kidney shaped grill; with the example of STIHL Chain Saws we would apply another colour combination instead of orange and light grey.

5.5 BFD ADVERTISING POSTER

Design and brands change over time. Certain industries are subject to changes in technical but also aesthetical aspects. In particular, the fashion industry is subject to fast changing conditions and trends. Fashion collections, alternating several times a year lead to a very high development speed but also provide the opportunity to react quickly to changing trends. Also the high tech industry, producing e.g. computers or mobile phones is subject to fast changing parameters, the products are, from a technical point of view, much more complex than fashion products, but not as style related. A special challenge is for instance to develop cars. Cars are designed up to five years or more in advance of their launch, then they are on the market for about five to seven years and after their production phase has ended they are still on the streets as used cars for a period of up to ten and more years.

Anticipating design is a challenge with a high potential of risks. The question, yet, is if consumers can be influenced to prefer specific product designs or styles due to

preceding manipulations. These manipulations could be based on brand-identity related advertising transmitting messages referring to subsequent product design or how far existing products influence consumer preferences referring to new products. Beside time, other, parameters referring to cultural, situational, economical or environmental effects, influence consumers evaluating and perceiving design.

We understand product design as an element of a holistic brand system. According to the idea of brand identity we develop pictures, similar to advertising posters that inhere brand relevant messages. These posters refer to new but also to existing product designs or brand values and shall provide reference points. The intension is to somehow simulate a context and influence consumers concerning their preferences and selections.

CONTEXTS

Design contributes to shape customer experiences. The effects of a design can be increased many times, by factors like employees or experience worlds. The faucet manufacturer hansgrohe has created an experience world around the themes bathing and water. The armatures are presented as art objects and leave a much more valuable and higher-quality impression to the customer, than this would be possible in a hardware or DIY store.

Products are always embedded in certain locations that significantly influence the specific appearance of objects and consequently consumer assessment. A Maggi bottle standing in the surroundings of a super-market where it is positioned in shelves among other objects and in a direct comparison to its competitors would appear totally different, if it were be presented on a pedestal in the MoMA New York. It would immediately change its meaning and appearance and be regarded as a piece of art, similar to Andy Warhol's Campbell's Tomato Soup Can prints.

Culture or meaning can be of various different kinds, it can concern masses and individuals, religions and social groups; culture can also refer to brands, companies or branches. Designs and brands are subject to cultural conditions; certain forms or

patterns are associated differently in different cultural areas. Religious values and associations anchored in a society can have a significant influence on acceptance and consumer preferences.

Culturally different characterized points of view can be influenced by product design on different levels. This can occur due to form, colour, branding, conception and more. Do consumers rather want to evoke attention with a product or are they more likely attributed to understatement? Consumers evaluate products referring to specific surroundings. According to various parameters and circumstances consumers perceive and judge identical products differently. Surroundings can be of many kinds; there exist infinite numbers of differently characterized contexts, e.g. of environmental, cultural, physiological, political or societal kind.

There seem to be four operational contexts referring to the use of products. The communication of people by using specific items is called sociolinguistic context, the context of genesis refers to the creation and consumption and ecological contexts which imply technological and cultural evolvement (Krippendorff 1989). As our goal is to consider different kinds of contexts in Brand Formative Design we develop BFD Advertising Posters, which shall simulate or refer to contexts on different levels. Similar to Krippendorff's operational contexts we integrate contexts related to *"product", "utilization", "brand" and "meaning"* (Image 24).

Consumers evaluate Brand Formative Design depending on different contexts. **BFD Advertising Posters** shall contribute to influence consumers concerning their preferred Brand Formative Design.

BFD PICTORIAL ICONS

The BFD Advertising Posters are purposefully composed collages of specific context, product and brand related images, which refer to new product design.

We call these specific context related images *BFD Pictorial Icons*. These BFD Pictorial Icons can be arranged according to similar parameters within the BFD Advertising Poster but adapted according to specific brands and products. We propose to apply four different BFD Pictorial Icons that purposefully refer to the new product, brand value and utilization.

The BFD Pictorial Icons presented in the following refer to the above-mentioned contexts "product-context", "utilization-context", "brand-context" and "meaning-context". However, BFD Pictorial Icons refer to more than one context.

BFD PICTORIAL ICON 1: PRODUCT

Product-context refers to a specific, actual product of the same category and brand. According to this existing product a potential successor shall be co-designed and respective BFD Stimuli are proposed. To influence consumers regarding the product, we apply a picture of an existing brand specific product in advance of the BFD CO-Design Process.

In the case of the product "chain saw" for the brand STIHL we would apply a picture of an existing STIHL Chain Saw as **BFD Pictorial Icon 1: Product**. In the case of a middle class SUV for the brand Volkswagen we would use e.g. the image of an existing and actual VW Tiguan.

However the BFD Pictorial Icon 1: Product does not refer only to *product-context*, but also to the *utilization-context* because it is embedded in a product specific surroundings. *Brand-context* is relevant for BFD Pictorial Icon 1: Product insofar as it also refers to brand specific BFD Items like specific colour combinations or logos.

BFD Pictorial Icon 1: Product

BFD PICTORIAL ICON 2: SURROUNDINGS

With *utilization-context* we refer to a product's original purpose and intend to influence consumers accordingly.

The original product purpose, in the case of a chain saw is, to cut down trees. Hence we would apply in our BFD Advertising Poster an image that illustrates the typical work environment of the product "chain saw" which is for instance an image showing forests. In the case of a car this could be a street situation, with the example of a SUV an off-road location.

We call such an image **BFD Pictorial Icon 2: Surroundings**. Because it always refers to a specific product it also refers to *product-context*. Products can have different meanings according to specific surroundings, hence BFD Pictorial Icon 2: Surroundings refers also to the *meaning-context*. *Brand-contexts* are relevant, because products can be presented in a surroundings underlining brand value, like e.g. the picture of a Range Rover in front of an English Castle or an Opera.

BFD Pictorial Icon 2: Surroundings

BFD PICTORIAL ICON 3: REPRESENTATIVE

Meaning-context refers to specific rather metaphoric messages that intend to communicate brand and product specific messages. These could be, in the case of a chain saw, product relevant characteristics like speed, efficiency, strength or robustness. Strength and robustness could be communicated in a metaphoric sense by using a picture of a knight; a picture of a fast animal like a jaguar could illustrate efficiency and speed.

We call such images representing certain brand or product characteristics **BFD Pictorial Icon 3: Representative**, which also refers to *product-contexts*, *utilization contexts* and *brand context*.

BFD Pictorial Icon 3: Representative

BFD PICTORIAL ICON 4: LOGO AND SLOGAN

Brand-context refers to brand identity relevant characteristics and messages can be conveyed by above-mentioned means. However there are possibilities to underline

brand and product relevant characteristics in a "written" form. By written form we understand the brand specific sign "logo" and an advertising slogan which refers in a metaphoric sense to brand, product and representative. We call this **BFD Pictorial Icon 4: Logo and Slogan.**

This can be in the case of a chain saw, the STIHL logo; the respective slogan could be "made for timber heroes" which refers also to *meaning-contexts*, *product-contexts* and *utilization-contexts*.

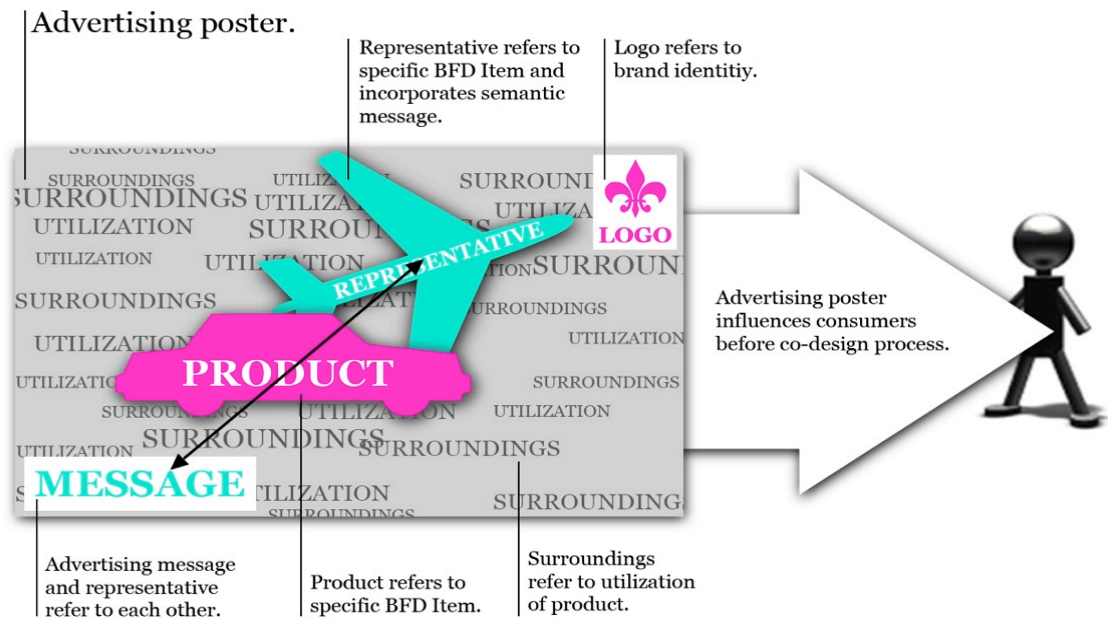
BFD Pictorial Icon 4: Logo and Slogan.

We conclude that the four BFD Pictorial Icons don't refer only to one specific context; furthermore BFD Pictorial Icons refer to each other. BFD Pictorial Icon 1: Product refers to surroundings, to representative, but also to logo and slogan and vice versa (Image 24 and Table 8).

Table 7 BFD Pictorial Icons referring to Contexts

	BFD Pictorial Icon 1: Product	BFD Pictorial Icon 2: Surroundings	BFD Pictorial Icon 3: Representative	BFD Pictorial Icon 4: Logo and Slogan
Product-context	Refers to product specific BFD Items	Identical products can have different meanings in different surroundings	Refers to product specific characteristics	Logo refers to product, slogan refers to product characteristics
Utilization-context	Is embedded in specific surroundings	Surroundings refers to typical utilization of product	Refers to utilization of product	Implies message concerning utilization of product
Brand-context	Refers to brand specific BFD Items	Products can be presented in a certain surroundings to communicate specific brand values	Refers to brand and product-specific characteristics	Refers to brand specific signs (logo), slogan implies certain brand values
Meaning-context	-	Implies meaning relevant message concerning utilization of product	Implies meaning relevant message concerning utilization of product	Implies message concerning product and brand meaning

Image 24 Purposefully designed advertising poster



Preceding confrontation of recipients with purposefully composed **BFD Advertising Posters.**

5.6 BFD: CONCLUSION AND EVALUATION

5.6.1 CONCLUSION AND EVALUATION OF BFD STRUCTURE, BFD STIMULI AND BFD ADVERTISING POSTERS REFERRING TO BFD DRIVERS

The base of the analysis of BFD Drivers, BFD Structure, BFD Stimuli and BFD Advertising Poster is the idea that product designs are evaluated, co-created and selected by consumers according to specific contexts.

The discussion results in a set of eight BFD Drivers. The BFD Drivers describe how design can contribute to form a brand and address consumers in general while BFD Items are design relevant elements, which can be applied in product design to refer to the respective BFD Drivers.

As design is not only about a collection of specific Brand Formative Design Items, but also about the way they are applied, we develop differently characterized BFD Stimuli and propose a BFD Structure that provides a framework which organizes the BFD Co-Design Process, supports the consumer and makes relevant selections and decisions comparable.

We suggest a set of eight BFD Items, which are related to specific Distinctive Design Levels (DDL). Respective every DDL we create a set of four BFD Stimuli; every BFD Stimulus implies a different composition of respective BFD Items, and refers to BFD Drivers in different expressions. We obtain certain BFD Stimuli that refer to a specific sort of BFD Drivers, but we also get BFD Stimuli referring to different BFD Drivers.

We intend to anticipate design and influence consumers regarding their design preferences, accordingly we simulate product and brand specific context by creating BFD Advertising Posters, which shall be presented to consumers in advance of the BFD Co-Design Process

RELATIONSHIPS AND REFERENCES BETWEEN BFD DRIVERS, BFD STRUCTURE, BFD STIMULI AND BFD ADVERTISING POSTER

Above, we have identified BFD Items and Structures that contribute to create Brand Formative Design and also refer to BFD Drivers in different expression, individually or together.

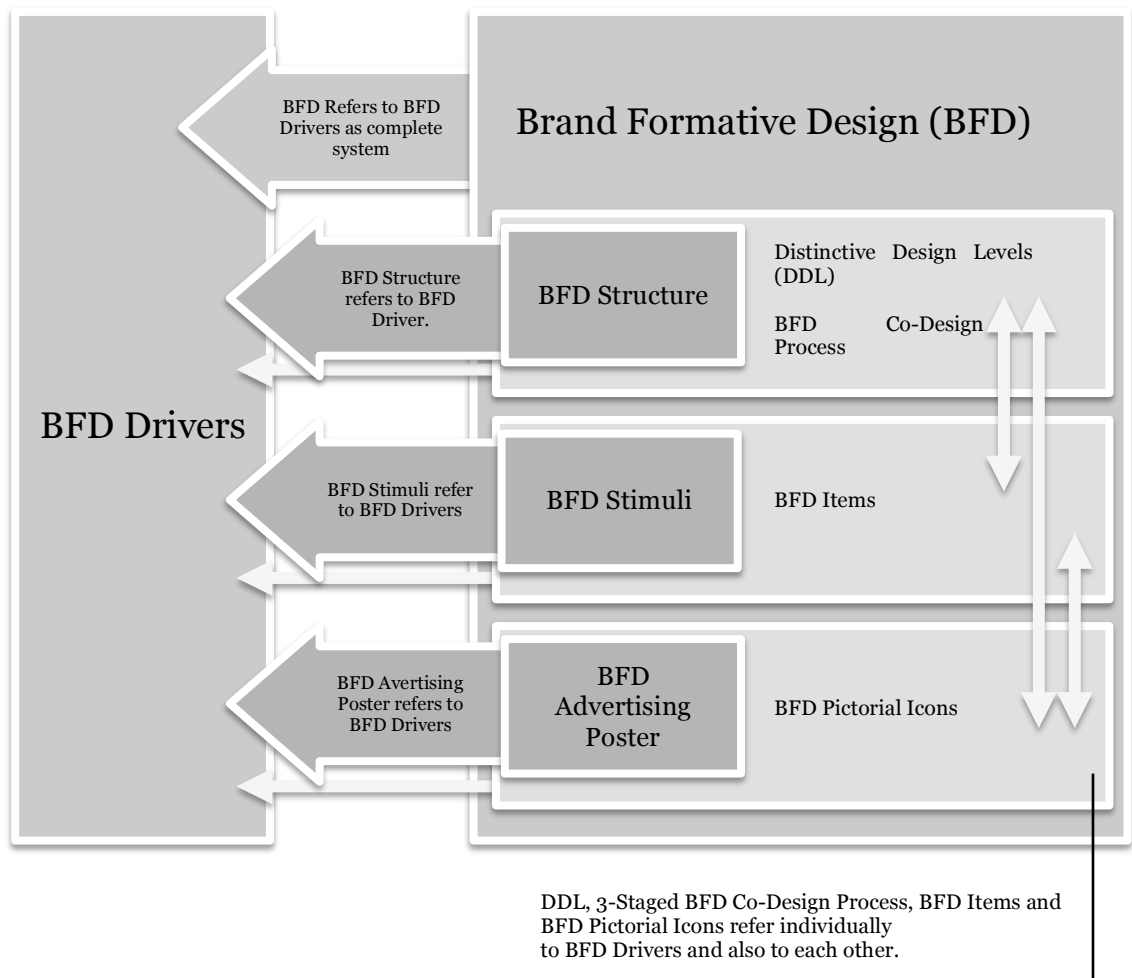
There are many relationships between BFD Drivers and the way, how Brand Formative Design takes shape. BFD consists of *BFD Structure*, *BFD Stimuli* and *BFD Advertising posters*. BFD Structure refers to the two sub-elements *Distinctive Design Levels* and *BFD Co-Design Process*. BFD Stimuli are based on an individual composition referring to eight BFD Items in three DDL. BFD Advertising Posters comprise an arrangement of four BFD Pictorial Icons.

All these elements, organizing Brand Formative Design refer to BFD Drivers, individually and in different expressions but also as a complete composition and to each other.

REFERENCE OF BFD STRUCTURE TO BFD DRIVERS

BFD Structure comprises Distinctive Design Levels and the BFD Co-Design Process. The dissection of products into three Distinctive Design Levels refers on the one hand to BFD Drivers; on the other hand DDLs are fundamental prerequisite for the BFD Co-Design Process to be carried out.

Image 25 Relationships and references between BFD Drivers, Structure, Stimuli and Advertising Poster



SIGNIFICANCE OF DDL REFERRING TO BFD DRIVERS

The dissection of objects into three Distinctive Design Levels is relevant in the context of BFD Drivers as discussed in the following.

As already mentioned the goal is to integrate consumers into design processes and to detect their specific preferences according to certain predispositions. To give

consumers the opportunity to take active part in the development of a product design, we divide objects into three DDL; thus consumers can configure their favourite design according to specifically determined parameters (BFD Driver 1).

Attention can be evoked differently and individually according to specific DDL, e.g. by applying just an unusual Gestalt. Philippe Starck's Juicy Salif lemon squeezer inheres such extraordinary proportions, but its soft surfaces or chrome appearance is not very surprising in the realm of kitchen accessories. Similarly a conventional drilling machine, painted in an unusual colour like pink would evoke activation due to one DDL only (BFD Driver 2).

It can be referred to different kinds of schemes on different DDL. If we think of a bar of chocolate, we usually have in mind the image of a rectangular, rather boxy body (DDL1 "Gestalt"), flat planes with sharp edges (DDL2 "Surface") and coloured in brown (DDL3 "Graphics"). Hence we can refer to a scheme on every DDL (BFD Driver 3).

Deviating from schemes too much can lead to the rejection of objects, while corresponding with schemes too much can cause boredom. Thus, the dissection of objects into three DDL can structure scheme deviation. It can be investigated how many DDL consumers accept or reject scheme deviation: A round chocolate bar, with soft appearing surfaces and coloured in green may lead to rejection, while a round chocolate with edgy surfaces and coloured in brown may be preferred (BFD Driver 4).

A product's proportions are the base for further DDL. If the proportions of a product are not aesthetic the most beautiful surface or graphic can't help. Vice versa, applying ugly colours to an astonishingly proportioned car like a Ferrari can spoil the whole product (BFD Driver 5).

Product and design personalities refer to specific characteristics, like e.g. of brands. In the case of badge engineering, where more or less identical products are sold under different brands, this can be of significance. Depending on certain products it can be that e.g. different surface characteristics or graphics are applied but identical

proportions are the base of the product; hence we can refer to product design personalities on different DDL (BFD Driver 6).

Particularly, regarding design languages, the subdivision of objects into DDL appears useful. If we understand design languages as a system of elements, ordered according to specific structures, single brand or design relevant items can be isolated, adapted or combined individually, but structured (BFD Driver 7). The division of objects into DDL can contribute to structure a consistent evolvement of Brand Formative Design, e.g. by dissecting preceding products into DDL and hence transferring and evolving existing brand or design relevant characteristics into new product designs (BFD Driver 8). Beside DDL the BFD Structure is based on the BFD Co-Design Process, which again comprises DDL specific BFD Stimuli.

SIGNIFICANCE OF BFD CO-DESIGN PROCESS REFERRING TO BFD DRIVERS

The BFD Co-Design Process provides consumers a structure to select and configure preferred product designs (BFD Driver 1). Some BFD Stimuli evoke more attention than others. Due to the BFD Co-Design Process, BFD Stimuli can be compared, selected and configured accordingly (BFD Driver 2). A structure is provided that on all Distinctive Design Levels a set of BFD Stimuli, referring to schemes in different expressions, is proposed (BFD Driver 3).

The BFD Co-Design Process provides a structure, where BFD Stimuli referring to schemes on respective DDL can be selected. Consumers can choose between BFD Stimuli referring to schemes in different expression within one DDL and can configure products, which purposefully correspond to schemes. In two DDL consumers might choose BFD Stimuli that don't refer to schemes at all, but in the third DDL the respective BFD Stimulus could be scheme congruent. Consequently the total product corresponds moderately to schemes (BFD Driver 4).

We have proposed the BFD Item 1: Aesthetic Proportions implying symmetry and golden ratio. However, what is aesthetically is always perceived individually. The BFD Co-Design Process allows consumers to select the BFD Stimuli they regard as aesthetic

(BFD Driver 5). As product design personalities can be referred to in different DDL, consumers can configure products according to their respective preferences (BFD Driver 6). The BFD Co-Design Process provides the "grammar" for consumers to select and compose "words" in order to create individual brand and design relevant "statements". The "words" in this respect are the BFD Stimuli within the respective DDL (BFD Driver 7). The BFD Co-Design Process is a framework, which supports a structured use of BFD Stimuli referring to previous products (BFD Driver 8).

Table 8 Reference of DDL and BFD Co-Design Process to BFD Drivers

BFD Drivers	Distinctive Design Levels (DDL)	BFD Co-Design Process
BFD Driver 1: Integration of consumers in design processes	Significant reference Consumers can select and co-design products according to Gestalt, surface and graphics	Significant reference Provides structure to compare, select and co-design products within given framework
BFD Driver 2: Evocation of attention	Moderate reference Due to specific design, products can evoke attention on all or on single DDL	Significant reference In different degrees attention-evoking BFD Stimuli can be compared selected and configured according to individual preferences of consumers
BFD Driver 3: Refer to schemes on different levels	Significant reference Due to specific design, products can refer to schemes on all DDL	Significant reference BFD Stimuli can be compared selected and configured referring to preferred schemes on all DDL
BFD Driver 4: Deviate from schemes purposefully	Significant reference Products can deviate from schemes only on single DDL	Significant reference Products can be co-designed that they refer to BFD Stimuli purposefully
BFD Driver 5: Aesthetics	Moderate reference In one DDL unaesthetically designed BFD Stimulus can negatively effect the total product design	Significant reference Consumers can configure products according to their individual aesthetical preferences
BFD Driver 6: Product design personalities	Significant reference Products can refer product design personalities on all DDL	Significant reference Products can be co-designed individually according to preferred product design personalities
BFD Driver 7: Brand Formative Design language rules and elements	Significant reference Base to structure and arrange BFD Items (elements)	Significant reference Provides design language relevant "grammar" where consumers can select their preferred "words" in order to create an design related statement
BFD Driver 8: Consistent evolvment of product design	Significant reference Products can refer to existing brand relevant BFD Items on all or single DDL	Significant reference Structured use and selection of BFD Stimuli referring to previous products

The BFD Structure refers to three *Distinctive Design Levels* and to the *BFD Co-Design Process*, which is based on the subdivision of products into three DDL and refers to the integration of consumers into the design process. The BFD Structure provides a framework, which organizes the selection, configuration and co-design of a product by consumers. Both, DDL and BFD Co-Design Process refer to BFD Drivers and the complete BFD Structure.

REFERENCE OF BFD STIMULI TO BFD DRIVERS

Some BFD Items, as BFD Driver 5: Aesthetics and BFD Item 1: Aesthetic Proportions, refer already individually to BFD Drivers. However, not all BFD Items are referring to BFD Drivers so clearly, rather, individual compositions of BFD Items in the form of BFD Stimuli refer to BFD Drivers. There are BFD Drivers, which are not affected at all by individually composed BFD Stimuli: For example BFD Driver 1: Integration of consumers in design processes is not relevant for BFD Stimuli because this BFD Driver is not about how the BFD Stimuli are composed but rather about the possibility to choose and configure BFD Stimuli.

DDL1 "GESTALT" BFD STIMULI AND RELEVANT BFD DRIVERS

Consumers can choose their preferred BFD Stimulus in DDL1 (BFD Driver 1). Gestalts of DDL1_BFD_S2-S4 evoke attention by deviating from schemes (BFD Driver 2). Every BFD Stimulus refers in different expressions to proportion relevant schemes. However DDL1_BFD_S1 applies all proportion relevant BFD Items and is completely scheme congruent (BFD Driver 3). Apart from DDL1_BFD_S1 every BFD Stimulus in DDL1 deviates from schemes, by not applying one proportion relevant BFD Item. In order not to unsettle consumers the BFD Stimuli deviate from schemes moderately. Thus the BFD Stimuli are always scheme congruent according to two BFD Items but deviate from another scheme by not referring to one proportion relevant BFD Item (BFD Driver 4). Except of DDL1_BFD_S4 all BFD Stimuli refer to BFD Item 1: Aesthetic Proportions

(BFD Driver 5). Aesthetics, product category and brand specific proportions can characterize product design personalities. Specific brand relevant proportions like the Gestalt of a Coke bottle are characteristics of a brand personality, the same is with product categories. But also the deviation from proportion relevant schemes can create unique product and design personalities (BFD Driver 6). Brand specific proportions are like other BFD Items possible elements of a design language and can refer to design language elements. Except of DDL1_BFD_S2 all DDL1 BFD Stimuli inhere BFD Item 3 and thus can -depending on product and brand- refer to a design language (BFD Driver 7). Proportion relevant BFD Items can refer to existing and evolutionary product category or brand specific proportions. All BFD Stimuli in DDL1 imply brand and/ or product relevant proportions and thus refer to preceding product design in different expressions (BFD Driver 8).

Table 9 Reference of DDL1 BFD Stimuli to BFD Drivers

BFD Drivers	DDL1_BFD_S1	DDL1_BFD_S2	DDL1_BFD_S3	DDL1_BFD_S4
BFD Driver 1: Integration of consumers in design processes	Consumers can select preferred BFD Stimulus.			
BFD Driver 2: Evocation of attention	No reference No deviation from schemes - no extraordinary evocation of attention	Significant reference Evocation of attention by scheme deviation	Significant reference Evocation of attention by scheme deviation	Significant reference Evocation of attention by scheme deviation
BFD Driver 3: Refer to schemes on different levels	Significant reference Implies BFD Items 1-3 and hence refers to all schemes.	Moderate reference Refers to two potential schemes BFD Item 1 and 2	Moderate reference Refers to two potential schemes BFD Item 1 and 3	Moderate reference Refers to two potential schemes BFD Item 2 and 3
BFD Driver 4: Deviate from schemes purposefully	No reference No deviation from schemes	Significant reference Scheme deviation by not applying:	Significant reference Scheme deviation by not applying:	Significant reference Scheme deviation by not applying:

BFD Drivers	DDL1_BFD_S1	DDL1_BFD_S2	DDL1_BFD_S3	DDL1_BFD_S4
		BFD Item 3	BFD Item 2	BFD Item 1
BFD Driver 5: Aesthetics	Significant reference Applies aesthetic proportions BFD Item 1	Significant reference Applies aesthetic proportions BFD Item 1	Significant reference Applies aesthetic proportions BFD Item 1	No reference
BFD Driver 6: Product design personalities	Aesthetics, product category and brand specific proportions can characterize product design personalities. However the deviation of schemes can lead to unique product design personalities. Accordingly all DDL1 BFD Stimuli inhere potential to refer to product design personalities, the individual relevance depend on individual products and brands.			
BFD Driver 7: Brand Formative Design language rules and elements	Brand specific proportions can be elements of a design language: BFD Item 3			
	Significant reference Applies possible design language elements. BFD Item 3	No reference No BFD language element	Significant reference Applies possible design language elements. BFD Item 3	Significant reference Applies possible design language elements. BFD Item 3
BFD Driver 8: Consistent evolvement of product design	Significant reference Implies proportions, which could refer to preceding products. BFD Item 2 and 3	Moderate reference Implies proportions, which could refer to preceding products. BFD Item 2	Moderate reference Implies proportions, which could refer to preceding products. BFD Item 3	Significant reference Implies proportions, which could refer to preceding products. BFD Item 2 and 3

DDL2 "SURFACE" BFD STIMULI AND RELEVANT BFD DRIVERS

The significance of DDL2 BFD Stimuli in the context of BFD Drivers depends rather on the individual product or brand. That means, if a BFD Stimulus inhering a certain surface characteristic deviates from a scheme depends on individual criteria like product category or brand. For instance, the surface characteristics of a MINI would deviate strongly from the brand relevant surface scheme if it were executed with flat planes and sharp edges. The design of a washing machine would deviate considerably from a product relevant surface scheme if it comprised curved planes with round

edges. In the following we discuss the general relevancies of BFD Stimuli inhering surface characteristics referring to BFD Drivers.

Consumers can select the BFD Stimulus with their most preferred surface characteristics (BFD Driver 1). Specific surface characteristics can evoke attention, if they deviate from the known: Surface characteristics of a product design with flat planes and sharp edges can evoke attention, when they refer to a brand, which is originally rather associated with curved planes and round edges like e.g. MINI (BFD Driver 2). The DDL2 BFD Stimuli 1-4 refer to certain schemes regarding brand or product category. This means, that if the typical brand related surface characteristic (e.g. Apple) is the combination of flat planes with round and sharp edges, DDL2_BFD_S4 would be suitable. If it were about the product typical surface-relevant scheme of washing machines DDL_BFD_S3 implying flat planes and sharp edges would fit (BFD Driver 3). BFD Stimuli in DDL2 can deviate from schemes only partially and thus purposefully: If the original surface characteristic of a brand like MINI is curved planes with round edges, the BFD Stimulus DDL2_BFD_S1 also refers to curved planes and round edges but deviates by additionally applying sharp edges (BFD Driver 4). Beside above introduced natural aesthetics, there are individual tastes and preferences, also relative to brand and product. The same consumers could regard curved planes with round edges as aesthetic in the case of a MINI Cooper, while in the case of a hi-fi device they would dislike these surface characteristics. Hence consumers can select their preferred surface characteristics individually (BFD Driver 5). In DDL2 we offer BFD Stimuli that refer to product and design personalities due to surface characteristics. If a company wants to communicate specific product characteristics like for instance "safety", soft forms as of DDL2_BFD_S2 could be appropriate. The combination of flat planes with sharp edges on the other hand could refer to an aggressive design personality like e.g. the car brand Lamborghini (BFD Driver 6). The surface characteristics of a product are elements of a design language, particularly regarding brand or product category. We provide four BFD Stimuli in DDL2 that can be applied as surface specific design language elements, fitting to individual design language rules (BFD Driver 7). In DDL2 we offer four BFD Stimuli, which can refer to different surface characteristics of preceding product designs. With DDL2_BFD_S2 we could offer a

surface characteristic that fits to the round shapes of Porsche, with DDL2_BFD_S4 we could refer to existing products of the brands Apple or Braun (BFD Driver 8).

DDL3 "GRAPHICS" BFD STIMULI AND RELEVANT BFD DRIVERS

Consumers can select the BFD Stimulus with their most preferred MSDGE (BFD Driver 1). Leaving out or applying certain graphical elements that refer to brands can evoke attention with consumers. Particularly strong and expensive brands like Rolls-Royce or Gucci and accordingly their logos evoke attention. On the other hand also leaving out most distinctive graphical elements can lead to attention, like for instance a Linde forklift, coloured in yellow and black instead of red and black or a BMW without a kidney shaped grill (BFD Driver 2). BFD Stimuli refer in different expressions to brand relevant schemes and evoke associations with consumers (BFD Driver 3). By leaving out graphic relevant BFD Item 8 (DDL3_BFD_S2) it can be deviated from schemes moderately. (BFD Driver 4). Aesthetics are differently relevant in the context of using brand relevant MSDGE or logos. While some consumers regard a very discreet use of logos as aesthetically, there are others who obviously prefer applied brand related elements in order to communicate certain life-styles or financial power (BFD Driver 5). BFD Items, relevant in DDL3 "Graphics" refer to brands and thus evoke brand relevant associations with consumers and accordingly product design personality relevant connotations. A BMW is regarded as sporty. This image is beside shape or proportions also communicated by graphical elements like logo and front grill (BFD Driver 6). Logos and MSDGE are elements of a design language and applied in different expressions in both DDL3 BFD Stimuli (BFD Driver 7). By using logos and MSDGE connections to existing and preceding products can be created and are applied by both DDL3 BFD Stimuli (BFD Driver 8).

Table 10 Reference of BFD Items and BFD Stimuli to BFD Drivers

BFD Drivers	DDL3_BFD_S1	DDL3_BFD_S2
BFD Driver 1: Integration of consumers in design processes	Consumers can select preferred BFD Stimulus.	
BFD Driver 2: Evocation of attention	Leaving out and/or applying graphical BFD Items can evoke attention, depending on product and brand; particularly if the use of graphical BFD Items is differently compared to existing products.	
BFD Driver 3: Refer to schemes on different levels	Significant reference Applies logo and MSDGEs that refer to schemes BFD Item 8	Moderate reference Applies logo
BFD Driver 4: Deviate from schemes purposefully	No reference No scheme deviation	Moderate reference Scheme deviation by applying only logo
BFD Driver 5: Aesthetics	Aesthetics are differently relevant in the context of using MSDGE. While some consumers regard a very discreet use of logos as aesthetically, there are others who prefer obviously applied MSDGE in order to communicate certain life-styles or financial power. Consumers can select the in their opinion most aesthetical BFD Stimulus.	
BFD Driver 6: Product design personalities	Significant reference Logo and MSDGE refer to product design personalities BFD Item 8	Moderate reference Applies logo
BFD Driver 7: Brand Formative Design language rules and elements	Logo and Most Significant Distinctive Graphical Element are fundamental elements of a design language.	
	Significant reference Logo and MSDGE can be applied as design language elements BFD Item 8	Moderate reference Applies logo
BFD Driver 8: Consistent evolvement of product design	Significant reference Logo and MSDGE can refer to preceding products. BFD Item 8	Moderate reference Applies logo

Conclusion:

All BFD Stimuli refer to BFD Drivers in different expressions and are based on an individual composition of BFD Items according to Distinctive Design Levels and BFD Drivers. Consumers can select their preferred BFD Stimuli and thus can configure products individually but structured according to BFD Drivers.

REFERENCE OF BFD ADVERTISING POSTER TO BFD DRIVERS

As consumers co-create and select their preferred products, we intend to influence design preferences and the selection of specific BFD Stimuli by confronting them with BFD Advertising Posters (BFD Driver 1). By applying certain BFD Pictorial Icon 2: Representatives, attention with consumers can be evoked, as e.g. in the case of a chain saw the surprising picture of a knight, using a chain saw could evoke attention (BFD Driver 2). Refer to schemes on different levels: With the BFD Advertising Poster we refer to schemes on different levels, for example regarding specific colour combinations of a brand, or the illustration of a chain saw inhering prototypical proportions (BFD Driver 3). In the BFD Advertising Poster an existing preceding product is shown, that illustrates the existing product design scheme as reference point from which the new product design can deviate (BFD Driver 4). The BFD Pictorial Icon 1: Product can be adapted that it refers to BFD Items "Aesthetics". This would mean e.g. to adapt the picture of a chain saw according to the golden ratio (BFD Driver 5). Representatives can communicate product and design personality character traits. With the example of a chain saw a BFD Pictorial Icon 3: Representative illustrating a knight could communicate robustness or sharpness (BFD Driver 6). The same or similar brand formative elements can be applied in the BFD Advertising Poster and the corresponding product design. In the case of a chain saw this could be e.g. the same

colour combination applied to the product in the BFD Pictorial Icon 1: Product and on the BFD Stimuli, but also regarding BFD Items referring e.g. to proportions or logos (BFD Driver 7). The product design of the successor can be co-designed respective configured according to the preceding product, which is illustrated in the BFD Advertising Poster (BFD Driver 8).

BFD Advertising Posters intend to influence consumers in advance of the BFD Co-Design Process. According to a specific composition they are reference point and imply specific brand value and product relevant messages which also refer to certain BFD Items and thus to BFD Stimuli. The total arrangement of the BFD Advertising Poster refers to BFD Drivers in different expressions.

5.6.2 CONCLUSION: BFD RELATIONSHIPS

RELATIONSHIPS BETWEEN BFD STRUCTURE, BFD STIMULI, BFD ADVERTISING POSTERS AND BFD DRIVERS

We have identified several aspects, which contribute to the development of Brand Formative Design. Brand Formative Design refers not only to individual and rather atomistic elements but also considerably to the way they are applied.

Brand Formative Design is not only based on the "**what**" but also on the "**how**".

Due to this idea we have identified several Brand Formative Design Items, which are combined individually according to Brand Formative Design Drivers and Distinctive Design Levels; they consequently lead to Brand Formative Design Stimuli.

Additionally to the BFD Stimuli the integration of consumers in the BFD Co-Design Process plays a central role, because their preferences and needs are an essential base for successful product design.

Accordingly we have developed a Brand Formative Design Structure, which provides a framework that organizes creative freedom, consumer integration and revolutionary as well as evolutionary design progress.

With purposefully arranged BFD Advertising Posters we refer to existing and prospective products or brand value and intend to provide a brand and product specific reference point.

6 RESEARCH DESIGN

According to the above-mentioned Brand Formative Design Structure, implying BFD Co-Design Process, BFD Stimuli and BFD Advertising Posters we propose three different products, which shall be co-created and evaluated in the following.

Due to countless factors influencing design and its effects on public and individual perception, today it is hardly possible to evaluate design objectively and completely. Nevertheless our goal is to contribute making further steps into the direction of scientific design evaluation and objectification.

Research in the field of design evaluation often refers to existing design and consumer reaction according to these designs. The challenge in the case of product design however is not to refer only to the past or present but rather to the future. This is why we strive to simulate a *future-oriented* design process in which consumers can actively contribute to create their preferred design within given boundaries.

According to these co-designed products our goal is to identify, which Brand Formative Design aspects are more significant concerning context, brand and product preference than others.

Our Brand Formative Design research comprises:

- Integration of consumers in co-design processes.
- Relevance of brand, product and universal schemes.
- Relevance and identification of factors that contribute individually, or as a combination, brand specific and product specific to Brand Formative Design.

To research and illuminate these questions we simulate BFD Co-Design Processes. Referring to existing brands and products we develop several sets of BFD Stimuli based on relevant BFD Items. Furthermore we develop appropriate BFD Advertising Posters.

BFD Stimuli and BFD Advertising Posters are presented to consumers, who can then select and co-design their preferred design models.

By executing our study we want to investigate the following research hypotheses:

H1. The integration of consumers in design processes leads to individually composed Brand Formative Design, which is preferred by respective consumers.

H2. BFD contributes to discover preference relevant and individual BFD characteristics.

H3. BFD deviates from schemes moderately.

6.1 RESEARCH PROCEDURE

We structure the BFD Research into following areas:

- Selection and definition of product categories and brands, which shall be applied.
- Development of BFD Stimuli and respective BFD Advertising Posters.
- Development and execution of co-design process.
- Research Analyses

6.1.1 SELECTION OF PRODUCT CATEGORIES AND BRANDS

Our goal is to achieve a high degree of generalizability concerning criteria, which contribute to Brand Formative Design. Products and product design can be very different due to category or branch; their formal complexity and other characteristics can vary significantly. We can also distinguish between capital goods and consumer goods.

Accordingly we propose to develop and apply BFD Stimuli that are different according to aspects like usage, price, brand value or consumer group but also imply a potential of comparability. In order to cover such a spectrum we apply the following brands and

products for our research: STIHL Chain Saws, SCHAUMA Shampoo Bottles and WMF Saucepans.

STIHL CHAIN SAWS

Similar to Volkswagen with its slogan “das Auto (the automobile)” which stands for (German) "car" there are other German manufacturers, which produce products, standing as a strong brand for a certain product category.

World market leader STIHL globally distributes one third of all chain saws and made a turnover of 2.62 billion Euros in 2011 (Focus 2012, WWW). The company STIHL is globally known for high-quality and durable chain saws. Many people known to the author, owning a chain saw don't talk about a chain saw, but about their STIHL. Since 1971 chain saws of the brand STIHL are the best sold in the world. Meyer cites STIHL Head of Marketing Peter Burton, who says that STIHL products evoke passion with consumers and the relationship between STIHL users and their chain saws is very strong. Some customers even have tattoos of STIHL Chain Saws; in one case a wedding couple even cut their wedding cake with a STIHL Chain Saw (Meyer 2008). In 1985 the company STIHL introduced “STIHL Timbersports”, a sporty and today professional competition of different disciplines around lumbering (STIHL TIMBERSPORTS 2013, WWW).

Accordingly we could regard STIHL as a strong international brand and a synonym for chain saws. Beside their functional performance STIHL Chain Saws could even be seen as emotionally charged status symbols. To test relations between brand and product design Stihl Chain Saws seem to be useful stimuli. Hence we design in our research a successor of a semi-professional **medium-sized STIHL Chain Saw**, similar to a STIHL MS 291, which costs about 650 Euros (STIHL 2013a, WWW).

SCHAUMA SHAMPOO BOTTLES

Also SCHAUMA is a strong German brand, looking back on a 115 years old history (Schauma 2013c, WWW). SCHAUMA became the best known and most liked hair care brand in Germany, based on products developed continuously and according to

current consumers' needs and trends (Handelsblatt 2012, WWW). According to the Brigitte KommunikationsAnalyse 2010 (Brigitte communication analysis 2010), 91% of 27,82 million German woman, aged 14-70 years know SCHAUMA, 49% regard the brand as appealing and 33% use SCHAUMA (Brigitte-Anzeigenleitung, G+J Media-Forschung Und –Service 2010, WWW). Supporting this positive image, SCHAUMA won in Germany the Reader's Digest "Most Trusted Brand" award 2013 in the category of hair care (Readers Digest Trusted Brands 2013, WWW). Additionally, the design of SCHAUMA Shampoo Bottles has been evolved evolutionary and became a strong and iconic three-dimensional brand itself, thus also SCHAUMA appears suitable for this research and we propose to investigate and design a potential successor of the existing **SCHAUMA Shampoo Bottle**.

WMF SAUCEPANS

The company WMF, founded already in 1853 is widely known in Germany but also internationally. In Germany, Austria, Switzerland and France WMF operates about 190 own stores; WMF products are additionally available in many shops and department stores in 90 countries. With WMF, design traditionally plays an important role; famous designers like Wilhelm Wagenfeld, Zaha Hadid, Ron Arad or James Irvine contribute to the public perception of WMF as a design related company (WMF 2013, WWW). As we have to do with the preparation of food daily, most people have experiences and attitudes concerning saucepans; furthermore the Gestalts of saucepans are strongly related to product-category schemes and of low complexity concerning the number of planes. Hence we regard **WMF Saucepans** as promising objects of investigation.

CONCLUSION OF PROPOSED BRANDS AND PRODUCTS

We propose this set for BFD Stimuli because respective brands are similar due to different aspects: They are strong German brands and stand -also internationally- nearly symbolically for specific products, but also represent "made in Germany". These three brands cover a wide range of consumers. STIHL makes products for both, professionals and also do-it-yourselfers. Even if people have never bought or operated a chain saw, they might know the brand, the product and people, who use STIHL Chain

Saws. Many people in Germany like gardening and chain saws seem to be at least indirectly part of this green world. Also WMF is a very traditional German brand, which almost stands as a synonym for kitchen accessories. In this respect most people deal daily with products to prepare or eat food and consequently seem to have experiences and attitudes concerning saucepans. Shampoo as a FMCG is a product, which is often used and consumed, and people -at least in many regions of the world- know shampoo and how to use it.

The products chain saw, saucepan and shampoo bottle cover a wide price range beginning with about 2.15 Euros for a SCHAUMA Shampoo Bottle over about 160 Euros for a WMF Saucepan (WMF 2013a, WWW) to about 650 Euros for a semi-professional STIHL Chain Saw (STIHL 2013a, WWW). These purchase prices are affordable for a wide range of German consumers could purchase these products, in the contrary e.g. to a new tractor which can cost about 100.000 Euros. Additionally, these three products appear different according to the formal complexity. Chains saws consist of many, rather complex planes compared to shampoo bottles or even saucepans, which, according to their basic architecture, are usually cylindrical and thus rather simple concerning their shapes.

6.2 DEVELOPMENT OF BFD STIMULI AND BFD ADVERTISING POSTER

6.2.1 DEVELOPMENT OF BFD STIMULI: STIHL CHAIN SAWS

DEFINITION OF DDL1 “GESTALT” BFD ITEMS 1-3 IN THE CONTEXT OF STIHL CHAIN SAWS

BFD Item 1: Aesthetic Proportions

For this research we have defined aesthetic proportions as a combination of applying the golden ratio in the main view of the product and axis symmetry relative to the product's "front".

In product brochures and other pictures chain saws are often shown from the side view, accordingly we propose this perspective as main view of chain saws; hence we apply the golden ratio in this view.

The application of total symmetry in the context of chain saws is difficult, because chain saws, due to functionality specific criteria, are not axis symmetrical. The saw blade is moved to the right side; also the handles are not symmetrical; the engine with the starter rope leads to an asymmetrical body and in the area of the main handle there is a little foothold on one side, which improves grip and stability while starting the engine with the rope.

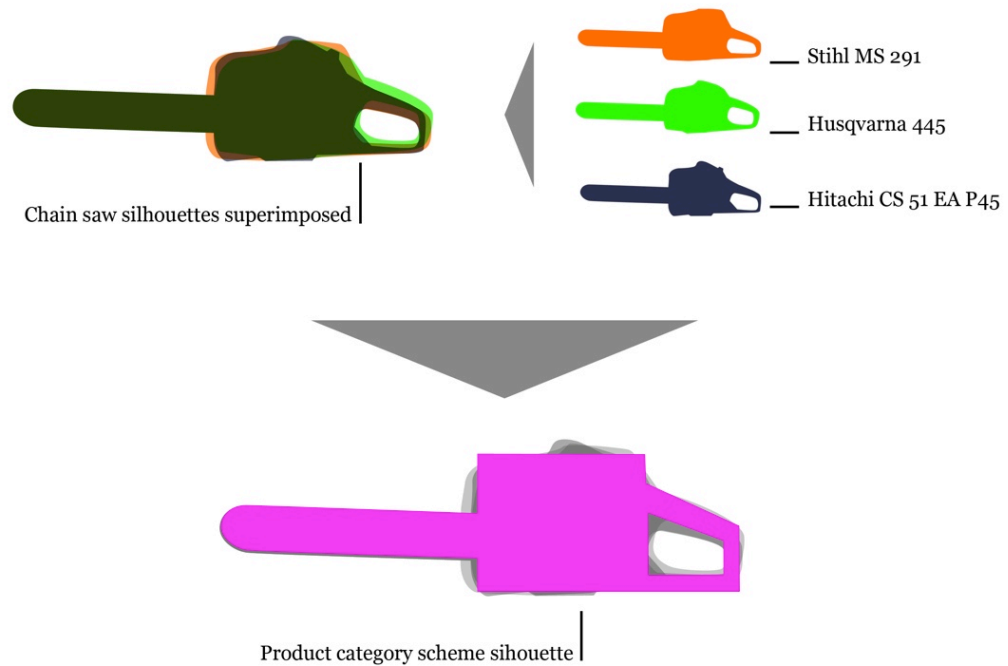
However, we design the chain saw BFD Stimuli in a way that they appear as axis symmetrical as possible, although they imply asymmetrical characteristics.

BFD Item 2: Product Category specific Proportions

We have selected two chain saws of competitors, which in price, size and technical data are similar to the STIHL MS 291. The side views of the three models are pretty similar; if we superimpose their silhouettes we can see the parallels.

Hence as product category scheme of chain saws we propose a large volume inhering the engine and the main handle. The front handle and the protection shield are not illustrated to simplify the silhouette and underline the main proportions (Image 26).

Image 26 Product Category specific Proportions of Chain Saws.



BFD Item 3: Brand specific Proportions

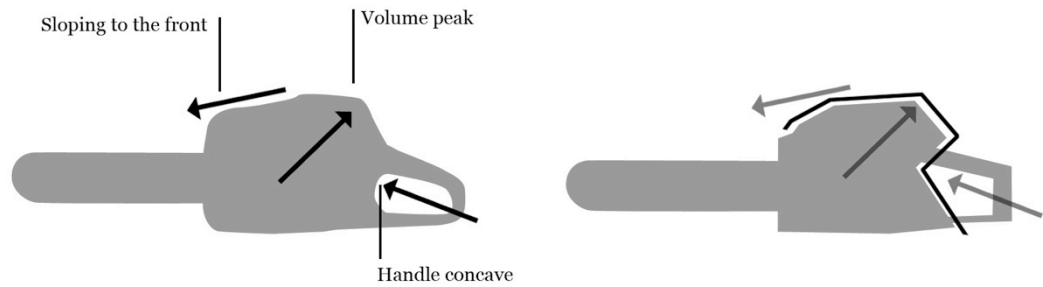
STIHL Chain Saws are not characterized by particularly unique proportions like e.g. Maggi and Coke bottle or the Porsche 911. The proportions of different chain saw brands are, despite slight differences, rather similar.

However a rather “boxy” main volume characterizes the STIHL MS 291 silhouette, which is higher in the back area (peak), in the front the silhouette is going down a little bit. In the area of the back handle it is slightly concave.

To define a brand specific silhouette we exaggerate these characteristics and lift the volume in the back so that we get a peak there and slope the volume to the front. In the area of the back handle we propose a negative corner (Image 27).

Image 27 Brand specific Proportions of STIHL Chain Saws

Exaggeration of existing proportions



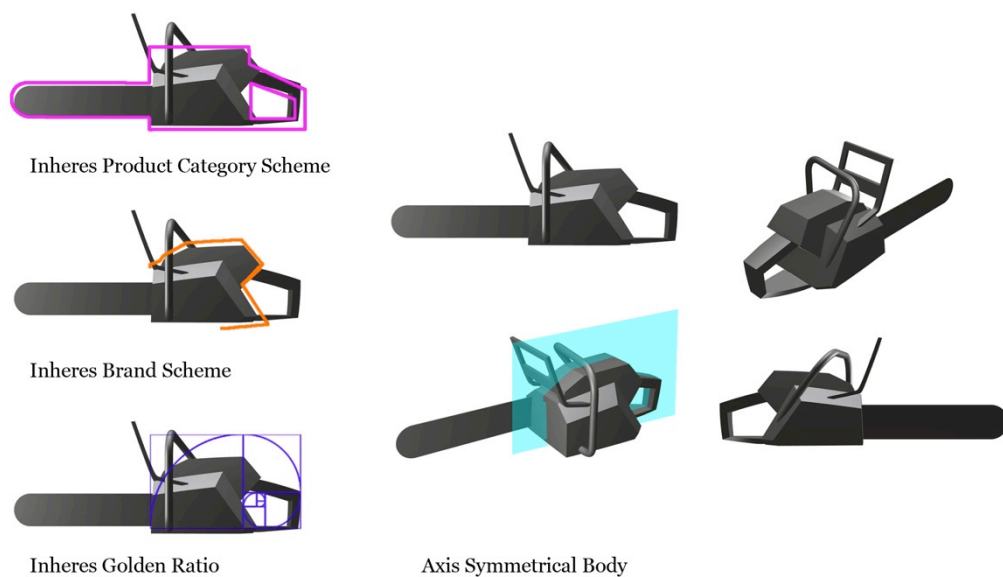
In the following we suggest STIHL Chain Saw BFD Stimuli, which refer to BFD Item 1-3 in different expressions. All BFD Stimuli are built three dimensionally by applying professional CAD (Computer Aided Design) software. To create the CAD 3D-data the software Autodesk Alias 2011 is applied, the 3D Data is rendered in Autodesk Showcase 2011. In order to get rather a realistic and equal research environment we always apply the same perspective, illumination and materials in the computer renderings.

DDL1 “GESTALT” STIHL CHAIN SAW BFD STIMULI

STIHL CHAIN SAW BFD STIMULUS 1 REFERRING TO DDL1_BFD_S1

STIHL Chain Saw BFD Stimulus 1 refers to DDL1_BFD_S1 and implies all BFD Items 1-3. We have a slight deviation from axis symmetry in the area of the front and back handle and an asymmetrical position of the saw blade. Yet, we presume that these deviations do not effect the overall symmetrical appearance too much (Image 28).

Image 28 STIHL Chain Saw Stimulus 1 referring to DDL1_BFD_S1 and inhering BFD Item 1-3

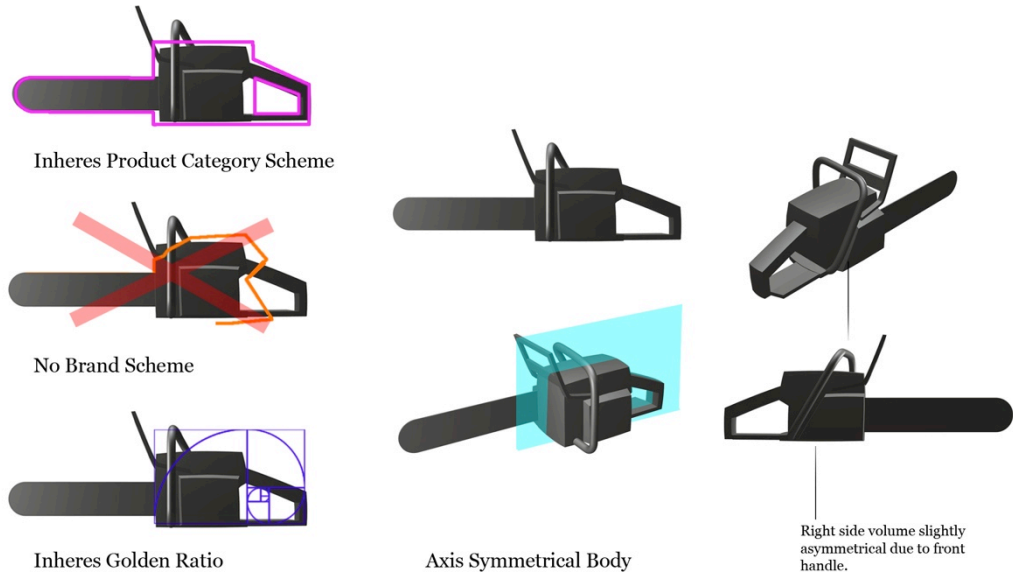


STIHL CHAIN SAW BFD STIMULUS 2 REFERRING TO DDL1_BFD_S2

STIHL Chain Saw BFD Stimulus 2 refers to DDL1_BFD_S2. It is designed that it refers to BFD Item 1: Aesthetic Proportions by applying the golden ratio in the side view and a rather axis symmetrical volume. However, here again the volume is, despite the handles, slightly asymmetrical. The small side volumes are marginally different due to the form of the front handle. Nevertheless, most chain saws inhere this kind of asymmetry; the basic shapes and surfaces are axis symmetrical and the general symmetrical impression is presumably not affected negatively. This Stimulus is designed insofar as it refers to the stereotype we have of chain saws, with the rather

boxy body and the back handle. Hence it refers to BFD Item 2. Brand specific proportions referring to BFD Item 3 are not applied (Image 29).

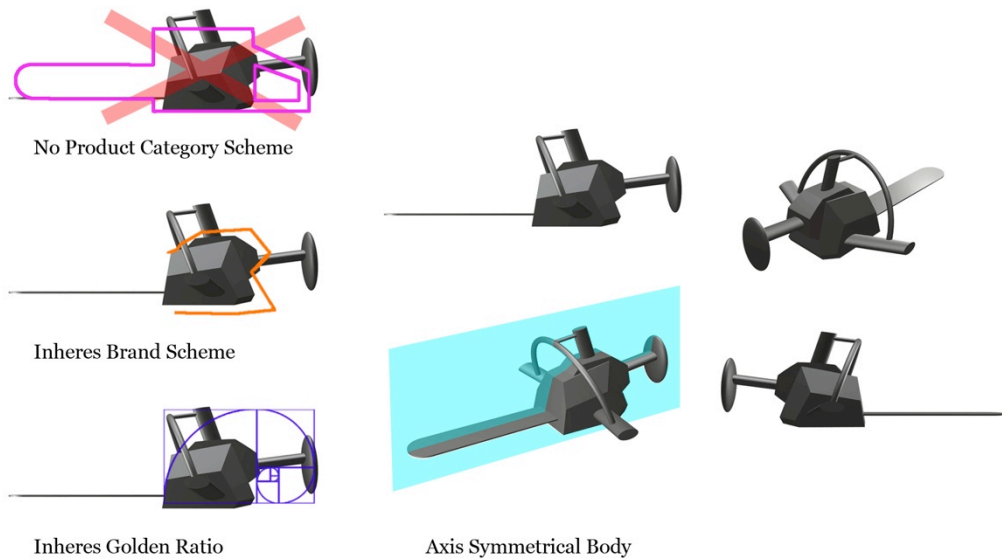
Image 29 STIHL Chain Saw BFD Stimulus 2 referring to DDL1_BFD_S2 and inhering BFD Item 1 and 2



STIHL CHAIN SAW BFD STIMULUS 3 REFERRING TO DDL1_BFD_S3

STIHL Chain Saw BFD Stimulus 3 is a totally new approach how chain saws could look like. The configuration of the handles is novel; the back part of the saw can be pressed against the body to cut trees. Accordingly, the saw blade is not positioned vertically but horizontally. In that respect this chain saw BFD Stimulus deviates from the known product category scheme. Due to the new architecture it does not need to refer to chain saw typical proportions and thus can be totally symmetrical. We can also apply the golden ratio, hence we apply BFD Item 1. Furthermore we can refer to the brand specific scheme and thus also refer to BFD Item 3 (Image 30).

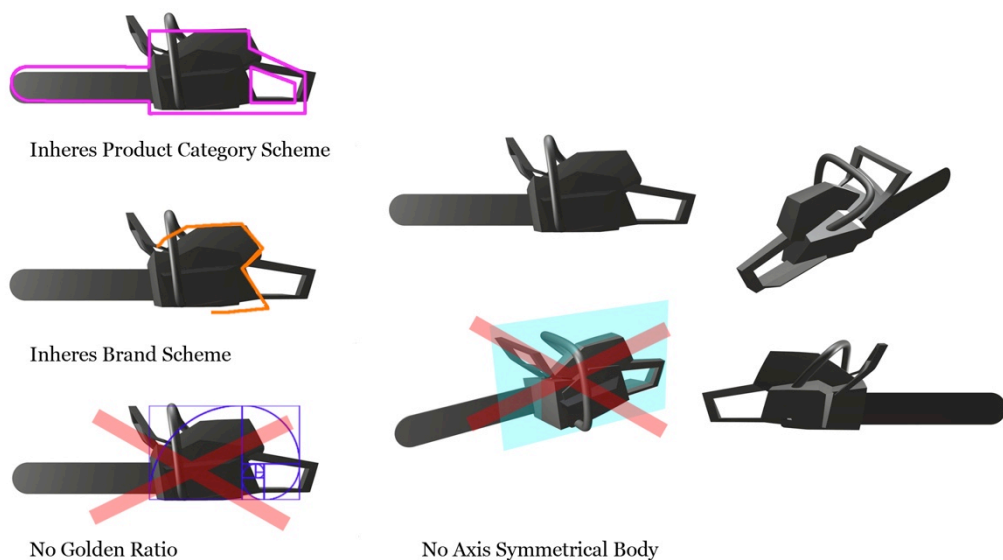
Image 30 STIHL Chain Saw BFD Stimulus 3 referring to DDL1_BFD_S3 and inhering BFD Item 1 and 3



STIHL CHAIN SAW BFD STIMULUS 4 REFERRING TO DDL1_BFD_S4

With STIHL Chain Saw BFD Stimulus 4 we imply schemes referring to brand and product specific proportions. However we do not use BFD Item 1 and refer to aesthetic proportions. All planes and basic proportions are designed totally asymmetrically; the golden ratio is not applied in the side view (Image 31).

Image 31 STIHL Chain Saw BFD Stimulus 4 referring to DDL1_BFD_S4 and inhering BFD Item 2 and 3



DDL2 "SURFACE" BFD STIMULI REFERRING TO THE DESIGN OF STIHL CHAIN SAWS

Based on DDL1 "Gestalt" BFD Stimuli introduced above we design BFD Stimuli in DDL2, which imply specific surface characteristics. That means, referring to each of the four DDL1 "Gestalt" BFD Stimuli we develop four different BFD Stimuli, inhering the same proportions but different surface characteristics.

In DDL2 "surface" probands can choose between BFD Stimuli inhering flat or curved planes with rounded and/ or sharp edges. The surface characteristics of STIHL Chain Saws and particularly of the MS291 is not as clear as for example in the case of a MINI Cooper.

However, the MS 291 inheres rounded and sharp edges, but also rather flat and curved planes. Nevertheless we propose to assign STIHL surface characteristics to DDL2_BFD_S4, which combines rather flat planes (BFD Item 4) with rounded (BFD Item 6) and sharp edges (BFD Item 7). As the planes are not curved very much, their overall impression is rather flat; particularly compared to similar products by Husqvarna or Hitachi where planes are rather strongly curved.

Accordingly we propose that DDL2 BFD Stimuli S4 refers to the typical STIHL surface characteristics, while e.g. the "soft" DDL2_BFD_S2 with curved planes and rounded edges rather deviates.

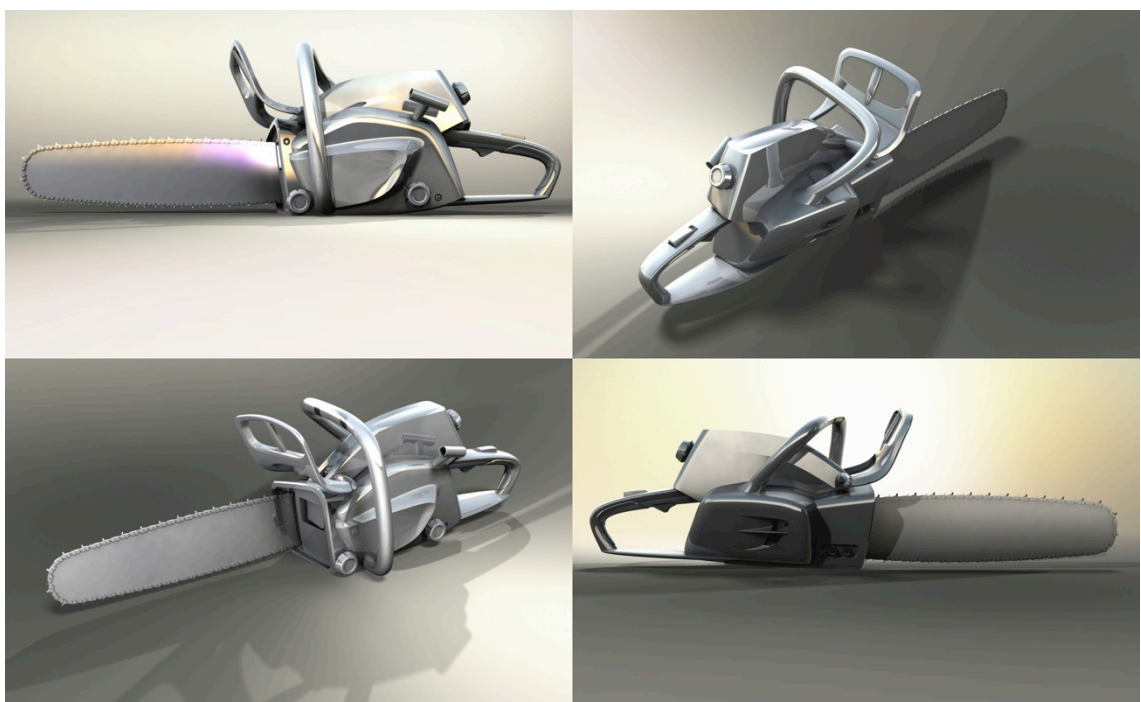
Overall, we have developed and illustrated 16 different chain saw BFD Stimuli, inhering four different DDL1 Gestalts and four corresponding surface characteristics inhering flat or curved planes and rounded and/or sharp edges.

In order to increase the three-dimensional appearance and to underline the individual surface characteristics of the BFD Stimuli we applied a material, which is very glossy and reflective, the objects appear like chromed. Rather a mat and dark shade would absorb light and reflections, thus the surface would appear flat and dull, consumers might not be able to "read" the three dimensionality of the BFD Stimuli.

Compared to the BFD Stimuli in DDL1 the BFD Stimuli in DDL2 are much more detailed. Three-dimensionally seen, they are nearly identical with the BFD Stimuli of DDL3, they just don't inhere logos or Most Significant Distinctive Graphical Elements, but details like buttons, screws or gaps in order to provide a realistic impression as possible. Basically, they look like complete chain saws but totally chromed.

The Stimuli are illustrated as you can see in Image 32, all 16 DDL2_BFD Stimuli are illustrated in the appendix.

Image 32 STIHL Chain Saw Example of DDL2 BFD Stimulus 1



Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

DDL3 "GRAPHICS" BFD STIMULI REFERRING TO THE DESIGN OF STIHL CHAIN SAWS

DEFINITION OF BFD ITEM 8 IN THE CONTEXT OF STIHL CHAIN SAWS

Compared to other branches logos are widely and obviously applied in the case of chain saws among different manufacturers.

On STIHL Chain Saws the logos are positioned largely on both sides of the saw blade; on the left hand side of the volume the logo is positioned inside an orange circle, on the right side in the light grey area. The size and exact position of the logos can vary.

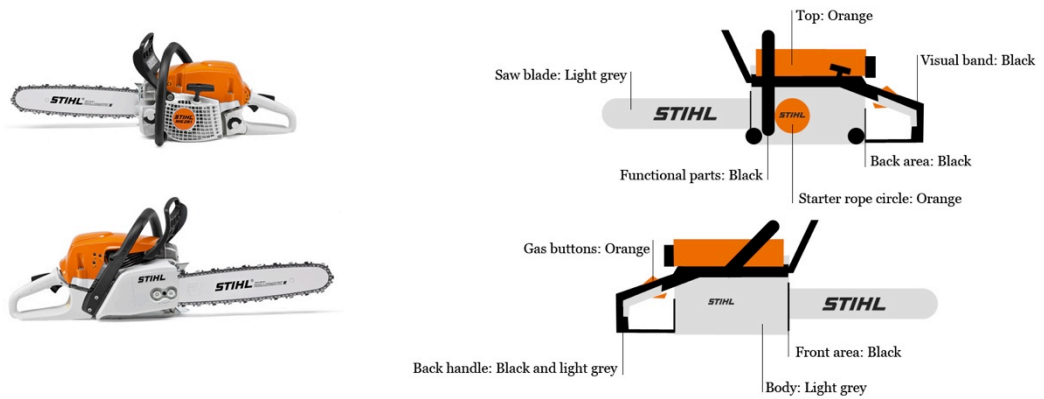
If we compare chain saws of different manufacturers we can see that different brands differ -besides logos- mainly due to specific colour combinations. Manufacturers usually apply the same colour combinations among their product spectrum. Husqvarna uses an orange body with silver stickers and saw blades; the brand McCulloch applies the colours black and yellow while Makita colours their chain saws in petrol, silver and black. Hitachi sells chain saws depending on markets in the combinations dark grey and green or dark grey and red. Most of the chain saw manufacturers apply a graphical element in the form of a sticker or logo in the area of the starter rope.

STIHL is strongly related to a specific colour combination, which is light grey in the area of the main body and orange in the top area (despite some electric chain saws). The saw blades are light grey. Depending on category and product the back handle can be light grey or black; the control buttons are orange or black. On the left side in the area of the starter rope of most of the gas driven STIHL Chain Saws, there is an orange circle with the STIHL logo. Front handle and protection shield are black as in the case of most competitors.

Accordingly we propose "brand specific colour combination" as Most Significant Distinctive Graphical Element and refer to a STIHL specific colour scheme.

The colour scheme proposed here is a framework in which the specific colour combinations are defined. However, it provides also creative freedom concerning the detailed execution. That means, that the top of the saw is always orange, the body and saw blade are grey, the functional parts are black; the exact position and outlines of the colour fields however may vary. Compared to original STIHL colour schemes, the colour black is applied slightly more dominantly; it is also used in the front and back area, as well as in form of a visual black band, which divides the main colour areas orange and grey. Reasons for that are a harmonic integration and connection of the functional parts and the back handle (Image 33).

Image 33 STIHL Colour Combination Scheme and Logo Position



Images on the left (Stihl, Feb 11, 2013)

STIHL CHAIN SAW BFD STIMULI REFERRING TO DDL3_BFD_S1

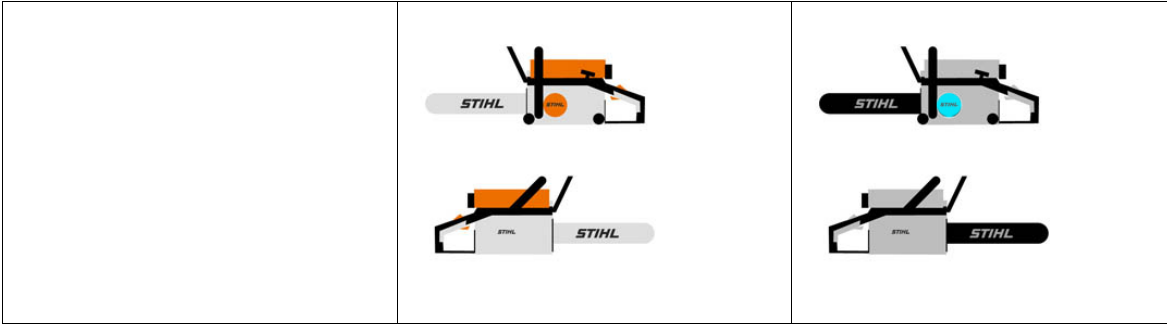
Imply STIHL logos and STIHL specific colour combination.

STIHL CHAIN SAW BFD STIMULI REFERRING TO DDL3_BFD_S2

Use of logos but no STIHL specific colour combination: Instead of light grey and orange we apply chrome respectively silver metallic and black. The original orange circle is blue and the saw blade black, the logos in these areas are black respective light grey. We renounce to apply colours (instead of the blue circle) in order to get, on the one hand, a BFD Stimulus, which is as neutral as possible, and, on the other hand, no competitor applies this colour combination. The original black parts have no differentiating function and thus stay black.

Table 11 Graphics scheme of BFD Stimuli in Distinctive Design Level 3

DDL3 BFD Stimuli	DDL3_BFD_S1	DDL3_BFD_S2
BFD Item 8: Most Significant Distinctive Graphical Element.	x	-



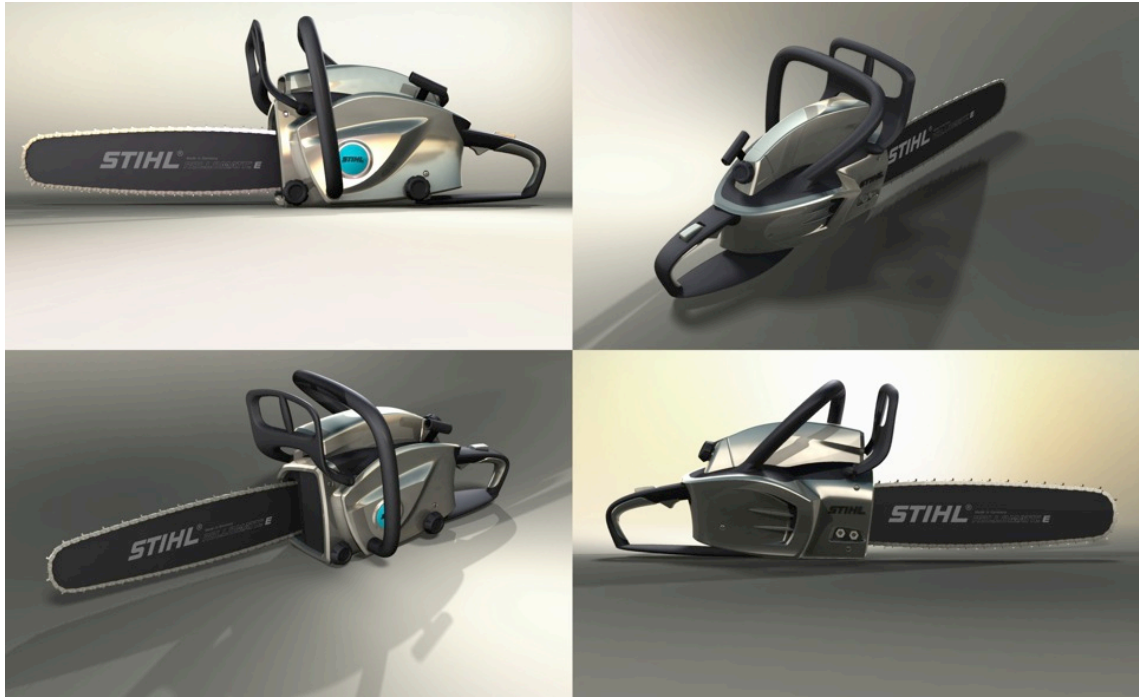
All 32 DDL3_BFD Stimuli are illustrated as the examples below and can be found in the appendix (Image 34 and 35).

Image 34 Example of STIHL Chain Saw DDL3 BFD Stimulus 1



Application of BFD Item 8: MSDGE

Image 35 Example of STIHL Chain Saw DDL3 BFD Stimulus 2



No application of BFD Item 8: MSDGE

DEVELOPMENT OF BFD ADVERTISING POSTER REFERRING TO STIHL CHAIN SAW

Custom-made for the co-design process of STIHL Chain Saws we create a BFD Advertising Poster, which shall influence consumers in advance of the co-design process. In the following the individual STIHL Chain Saw specific BFD pictorial icons are presented, of which the advertising poster is composed. With the poster we refer to existing STIHL advertisements, e.g. concerning the position of the logo. Furthermore the poster shall put the (existing) chain saw into the focus and thus be a point of reference for consumers concerning the development of subsequent new chain saw designs and also communicate values like quality, robustness and reliability.

DEFINITION OF BFD PICTORIAL ICONS 1- 4 IN THE CONTEXT OF STIHL CHAIN SAWS

BFD Pictorial Icon 1: Product

In this research we investigate the co-design process of a semi professional STIHL Chain Saw, which shall be the successor of the existing STIHL MS 291. However as already mentioned, the STIHL MS 291 does not imply very unique proportions and surface characteristics. To investigate how and in what way consumers can be influenced according to their preferences, we adapt a picture of the left side of the STIHL MS 291 insofar as it simulates an existing preceding product, but also offers links to our STIHL Chain Saw BFD Stimuli.

We have already mentioned that the typical STIHL specific surface characteristics are rather flat planes combined with sharp and rounded edges, however compared to other STIHL models like e.g. the high professional STIHL MS 660, the surfaces of the MS 291 are not as significantly pronounced; hence we have "flattened" the appearance of the surface characteristics of the MS 291 and made it similar to the MS 660. The caps on the sides are also adapted and made in black as on the MS 660. We have also added a black cap in the back area. The back handle is black with a grey inlay and orange buttons. In this respect we combine and adapt the handles of the STIHL Chain Saws MS 291, MS 660, MS 211 and MSA 160 C-BQ. In addition, we made the joints smaller and added a little black band, similar to our BFD Stimuli. Additionally we slightly adapted the silhouette of the MS 291 side view in the area of the top area and back handle to simulate stronger STIHL typical proportions as explained in chapter 6.2.1. (Image 36).

Some characteristics of this BFD Pictorial Icon 1 refer to the STIHL Chain Saw BFD Stimuli: All BFD Stimuli in DDL3 apply the black band and black caps; to calm down the design, to concentrate on significant design characteristics and simplify the evaluation by consumers we don't illustrate air intake mesh on the left side of the BFD Pictorial Icon 1: Product and the BFD Stimuli.

To conclude we can say that the adapted STIHL MS 291 BFD Pictorial Icon 1: Product is a purposefully adapted combination of typical STIHL characteristics that refer to different existing STIHL Chain Saw designs and thus cover a rather wide spectrum of STIHL design characteristics but also refers to STIHL Chain Saw BFD Stimuli (Image 36).

Image 36 Stihl MS 291 Pictorial BFD Icon 1: Product



Adapted Stihl MS 291 BFD Pictorial Icon 1: Product



Images of Stihl MS 291, 660, 211 and MSA 160 C –BQ (Stihl, Feb 11, 2013)

BFD Pictorial Icon 2: Surroundings

STIHL Chain Saws are typically used in the context of the material wood. In this regard there are different possible scenarios; however, cutting trees is first of all associated with the surroundings "wood". Accordingly for BFD Pictorial Icon 2: Surroundings we have selected the image of a forest as background for the BFD Advertising Poster.

BFD Pictorial Icon 3: Representative

As medium which represents characteristics that refer to the product "STIHL Chain Saw" and also to users we apply the picture of a knight in armour as BFD Pictorial Icon 3: Representative.

A knight represents characteristics like robustness, strength or reliability. These values could be transferred also on chain saws and in this context communicated by the representative "knight". If we look at professional woodsmen they imply characteristics of modern heroes: They wear protective clothing, which can be associated with ancient armours and their work requires also bravery and physical power: Characteristics that can - similar to knightly games - even be compared in international competitions like STIHL Timbersports. With a twinkle in the eyes we created a further link to present STIHL corporate colours and protective clothing by colouring some areas of the armour and the helmet in orange.

BFD Pictorial Icon 4: Logo and Slogan.

We apply the typical STIHL Logo with the white word mark on an orange background and position it in the top right corner of the BFD Advertising Poster.

Additionally we developed the slogan: "Made For Timber Heroes". The slogan shall support the visual message of the STIHL Chain Saw BFD Advertising Poster and directly address the observer. Basically it says that STIHL Chain Saw users are heroes and the STIHL is the perfect tool especially developed and manufactured for them (Image 37).

Image 37 Stihl chain saw BFD advertising poster



Image collage: Background (Imagix Pictures – Fotolia.com, Oct 22, 2012), knight (AWP – Fotolia.com, Nov 22, 2012), adapted chain saw (Stihl, Feb 11, 2013)

6.2.2 DEVELOPMENT OF BFD STIMULI: SCHAUMA SHAMPOO BOTTLES

DEFINITION OF DDL1 “GESTALT” BFD ITEMS 1-3 IN THE CONTEXT OF SCHAUMA SHAMPOO BOTTLES

BFD Item 1: Aesthetic Proportions

Aesthetic proportions imply axis symmetry relative to the front and the application of the golden ratio in the main view. In the case of shampoo bottles the front and the main view are usually identical; the front of the shampoo bottle is the side on which e.g. the brand and product name is printed. Compared to chain saws the application of axis symmetry and the golden ratio can be defined and executed very clearly with shampoo bottles. The proportions of the actual SCHAUMA Shampoo Bottles inhere already axis symmetry and golden ratio (Image 38).

Image 38 SCHAUMA Shampoo Bottle: Axis symmetry, golden ratio and product front/ main view



Image (Schauma, May 15, 2013b)

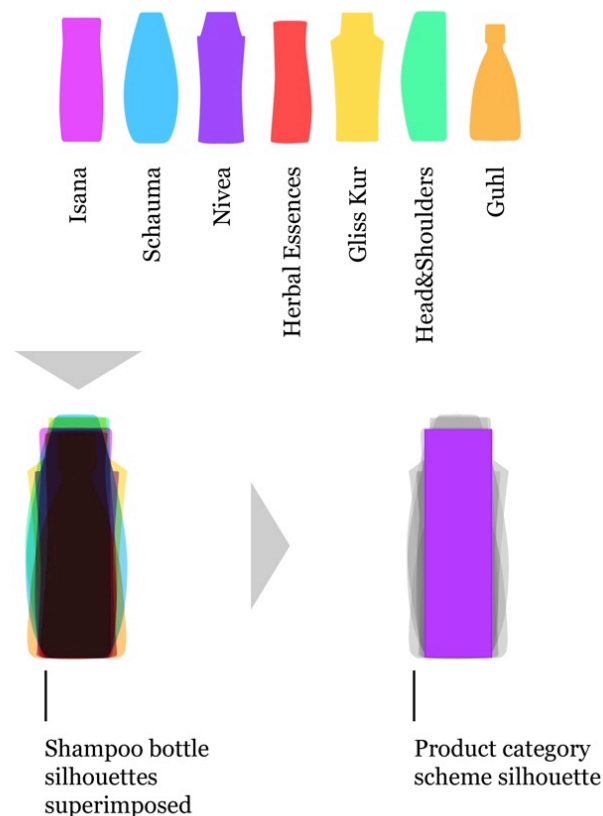
BFD Item 2: Product Category specific Proportions

To analyse and define product category specific proportions we have superimposed the silhouettes of seven shampoo bottles, with a price range, beginning with Isana (1,63 € per litre) over SCHAUMA (5,38 € per litre) to Guhl (25 € per litre).

If we look at the silhouettes, we can see that there are some significant differences, e.g. between Guhl and Herbal Essences, but there are also similarities. All product packages are rather vertically oriented, that means relative to the width the silhouettes are higher and often they are narrower at the top than at the bottom.

To get product category specific proportions as neutral as possible we apply a rectangular silhouette with a larger height compared to the width (Image 39).

Image 39 Product category specific proportions of shampoo bottles



BFD Item 3: Brand specific Proportions

Compared to e.g. STIHL Chain Saws, SCHAUMA Shampoo Bottles imply strong brand specific and unique proportions. Similarly like the bottles of Maggi, the typical “bulbous” SCHAUMA Shampoo Bottle design is characterized by an evolutionary and consistent design development. This SCHAUMA typical silhouette can be applied in the creation of BFD Stimuli (Image 40).

Image 40 Brand specific proportions of SCHAUMA shampoo bottles



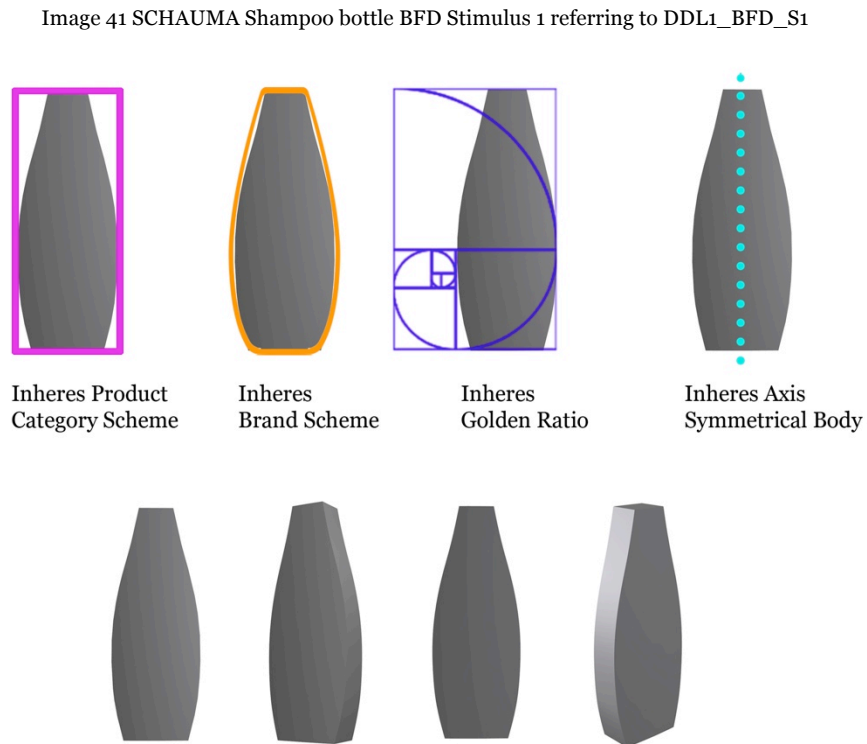
Images (Schauma, Apr 10, 2013a)

Below we propose SCHAUMA Shampoo Bottle BFD Stimuli that imply BFD Item 1-3 in various expressions. In order to make BFD Stimuli as comparable as possible, they are built the same way and with the same CAD software like the above shown STIHL Chain Saw BFD Stimuli.

DDL1 “GESTALT” SCHAUMA SHAMPOO BOTTLE BFD STIMULI

SCHAUMA SHAMPOO BOTTLE BFD STIMULUS 1 REFERRING TO DDL1_BFD_S1

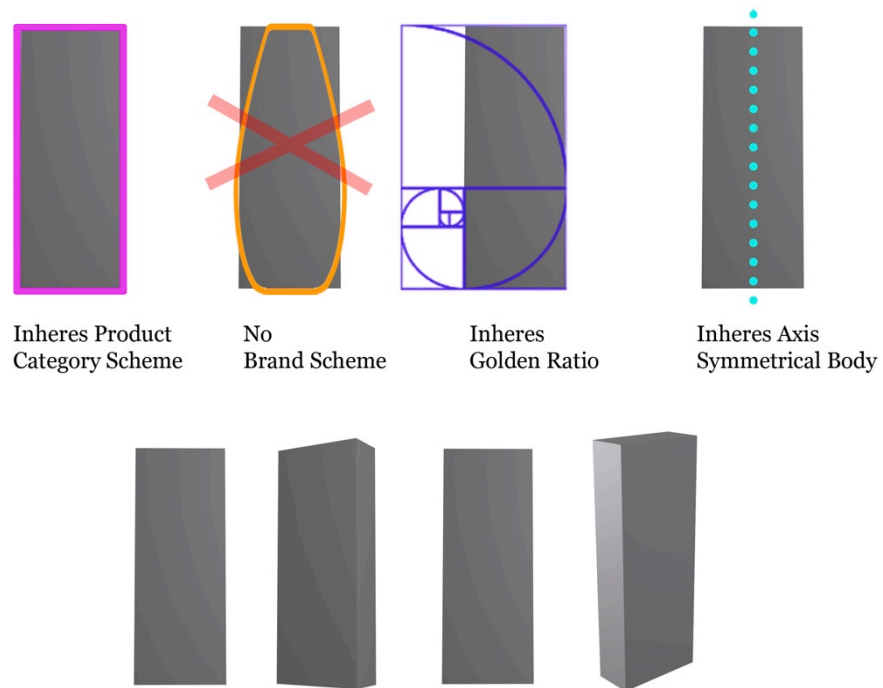
SCHAUMA Shampoo Bottle BFD Stimulus 1 refers to DDL1_BFD_S1, it implies all BFD Items 1-3. (Image 41)



SCHAUMA SHAMPOO BOTTLE BFD STIMULUS 2 REFERRING TO DDL1_BFD_S2

SCHAUMA Shampoo Bottle BFD Stimulus 2 refers to DDL1_BFD_S2. It inheres BFD Item 1: Aesthetic Proportions by applying the golden ratio in the front view and an axis symmetrical volume. It contains also BFD Item 2 and thus is created in a way that it refers to the basic, average volume of typical shampoo bottles with a rather vertically oriented body. The SCHAUMA typical bulbous brand specific proportions (BFD Item 3) are not applied (Image 42).

Image 42 SCHAUMA Shampoo Bottle BFD Stimulus 2 referring to DDL1_BFD_S2

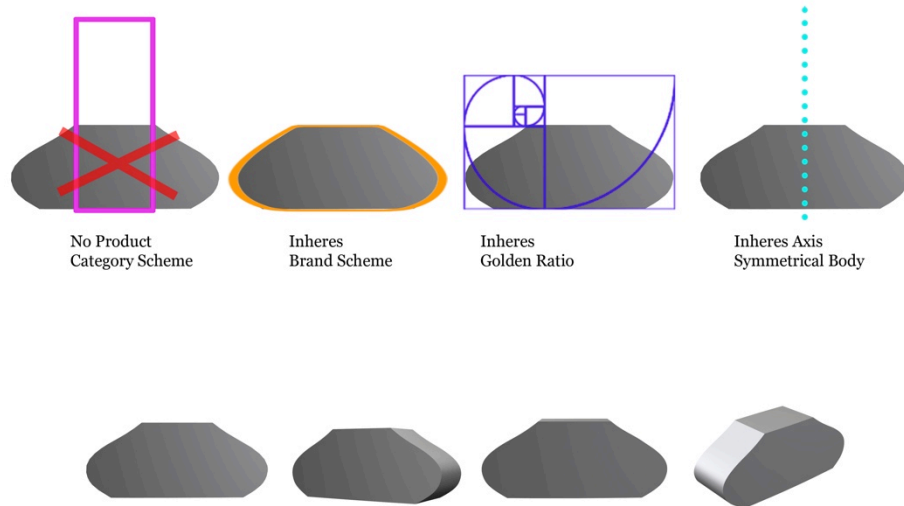


SCHAUMA SHAMPOO BOTTLE BFD STIMULUS 3 REFERRING TO DDL1_BFD_S3

SCHAUMA Shampoo Bottle BFD Stimulus 3 deviates from the typical shampoo bottle scheme and does not refer to BFD Item 2. The proportions are designed rather horizontally oriented; completely different to the common vertically oriented shampoo bottles.

Although the product specific proportions of the shampoo bottle are distorted it inheres the SCHAUMA typical bulbous form referring to BFD Item 3, it also inheres golden ratio and axis symmetry and thus refers to BFD Item 1 (Image 43).

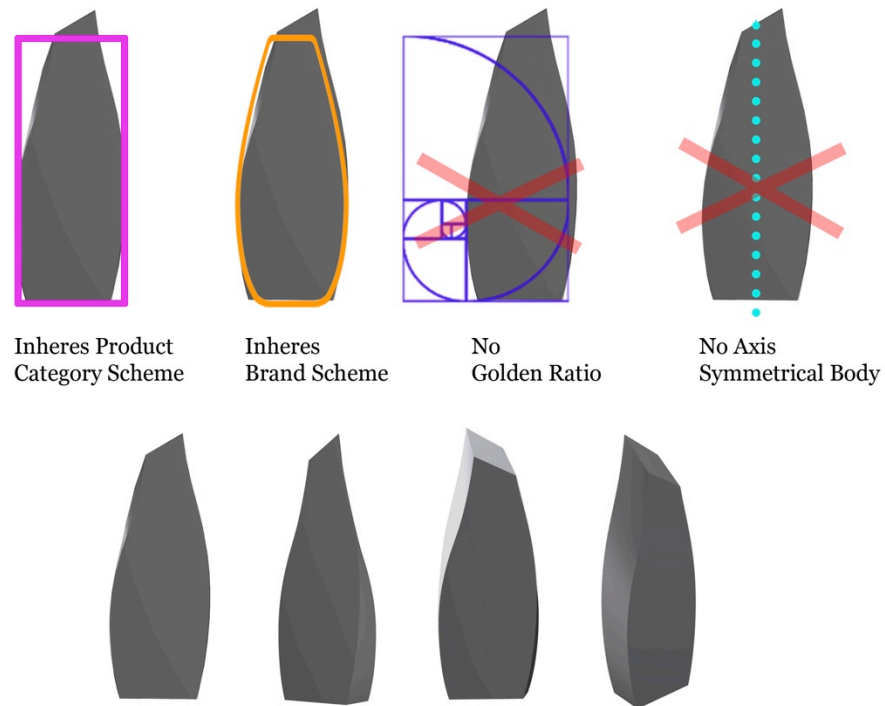
Image 43 SCHAUMA Shampoo Bottle BFD Stimulus 3 referring to DDL1_BFD_S3



SCHAUMA SHAMPOO BOTTLE BFD STIMULUS 4 REFERRING TO DDL1_BFD_S4

With SCHAUMA Shampoo Bottle BFD Stimulus 4 we imply schemes referring to brand and product specific proportions, but we do not apply aesthetic proportions of BFD Item 1. All planes and basic proportions are designed asymmetrically and the golden ratio is not applied either. However, the proportions of this BFD Stimulus are rather horizontally oriented referring to BFD Item 2, the bulbous SCHAUMA form referring to BFD Item 3 is also applied but of course asymmetrically due to the basic proportions (Image 44).

Image 44 SCHAUMA Shampoo Bottle BFD Stimulus 4 referring to DDL1_BFD_S4



DDL2 "SURFACE" SCHAUMA SHAMPOO BOTTLE BFD STIMULI

In DDL2 "Surface" we propose SCHAUMA Shampoo Bottle BFD Stimuli that are based on the four BFD Stimuli of DDL1 "Gestalt" but inhere four different surface characteristics. We offer BFD Stimuli inhering flat or curved planes with rounded and/or sharp edges. Compared to STIHL Chain Saws the existing Surface characteristics of SCHAUMA Shampoo Bottles can be identified respective defined rather easily. Typical SCHAUMA Shampoo Bottles have curved planes and round edges. As already mentioned the current SCHAUMA Shampoo Bottles have a little flat plane on the top and bottom area, but on the whole the bottle appears rather round. Accordingly we assign the surface characteristics of typical SCHAUMA Shampoo Bottles to DDL2_BFD_S2 which combines curved planes with round edges.

BFD Stimuli in DDL2 are illustrated like the example below, in the appendix we show all 16 BFD stimuli, which refer to the four DDL1 Gestalts and corresponding four surface characteristics.

Just as with the chain saw BFD Stimuli we apply the highly reflective chrome-like material in the SCHAUMA Shampoo Bottle BFD Stimuli in order to visualize the surface characteristics as well as possible (Image 45).

Image 45 Example of DDL2 SCHAUMA BFD Stimulus 2



Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

DDL3 "GRAPHICS" SCHAUMA SHAMPOO BOTTLE BFD STIMULI

DEFINITION OF BFD ITEM 8 IN THE CONTEXT OF SCHAUMA SHAMPOO BOTTLES

In the case of shampoo bottles and particularly in the case of SCHAUMA, logos are widely and prominently applied. On SCHAUMA Shampoo Bottles three different logos are used: On the front view there is a large-scale word brand SCHAUMA logo, which is dark blue with white outlines. Secondly, there is the "Schwarzkopf" logo with the silhouette of a head. The colour of the Schwarzkopf logo can differ and depends on the colour of the shampoo bottle. On the backside of the bottle there is a small logo of the umbrella brand Schwarzkopf & Henkel, also together with the silhouette of a head. The most important logo however is the SCHAUMA logo on the front, followed by the smaller Schwarzkopf logo.

As already discussed, in the case of SCHAUMA the colour combination is not a Most Significant Distinctive Graphical Element. In contrast to STIHL Chain Saws or

head&shoulders shampoo, SCHAUMA does not stand for a specific colour combination: SCHAUMA applies different colour combinations according to shampoo version. Despite e.g. products for children, SCHAUMA applies the face of a female or male on its bottles, thus we define the use of an image of a face as MSDGE.

But also competitors like the ROSSMANN trademark ISANA applies faces on the products. Nevertheless in other branches strong brand characteristics are used by competitors too, beginning with products of the BAUHAUS trademark “Herkules”, which copy the KÄRCHER colour combination black and yellow and ending with SsangYong SUVs that imitate Mercedes-Benz front grills and just leave the star.

Image 46 MSDGE and logos on SCHAUMA Shampoo Bottles



SCHAUMA SHAMPOO BOTTLE BFD STIMULI REFERRING TO DDL3_BFD_S1

Contain logos and SCHAUMA face.

SCHAUMA SHAMPOO BOTTLE BFD STIMULI REFERRING TO DDL3_BFD_S2

Apply logos but no SCHAUMA face.

All BFD Stimuli in DDL3 refer to the existing SCHAUMA shampoo type “Glatt & Glossy” and thus have a dark purple cap and a light purple body.

Table 12 Graphics scheme of BFD Stimuli in Distinctive Design Level 3



DDL3 BFD Stimuli	DDL3_BFD_S1	DDL3_BFD_S2
BFD Item 8: Most Significant Distinctive Graphical Element.	X	-
		

Image 47 Examples of SCHAUMA BFD Stimuli referring DDL3_BFD_S1 and S2



Left Image: Application of BFD Item 8: MSDGE

The DDL3_BFD Stimuli are illustrated as in Image 47, all 32 SCHAUMA Shampoo Bottle variations of DDL3 can be found in the appendix.

DEVELOPMENT OF BFD ADVERTISING POSTER REFERRING TO SCHAUMA SHAMPOO BOTTLES

With the SCHAUMA Shampoo Bottle BFD Advertising Poster we integrate all four above-proposed BFD Pictorial Icons and refer to existing SCHAUMA advertising and products. It shall be a point of reference for consumers regarding the co-design process of new SCHAUMA Shampoo Bottles.

DEFINITION OF BFD PICTORIAL ICONS 1- 4 IN THE CONTEXT OF SCHAUMA SHAMPOO BOTTLES

BFD Pictorial Icon 1: Product

With this co design process we investigate design preferences of a potential successor of existing SCHAUMA Shampoo Bottles. There are various different shampoo versions, which differ regarding colour combination or the face which is printed on the front view. However, apart from that, the basic design of the individual SCHAUMA Shampoo Bottles is identical. We have decided to use an image of the existing version “Glatt & Glossy” with a light and dark purple coloured body and a female face printed on the front (Image 48).

In contrary to the above proposed STIHL Chain Saw BFD Pictorial Icon 1: Product, there is no reason to simplify, underline and exaggerate specific SCHAUMA design characteristics in BFD Pictorial Icon 1: Product, and to adapt the picture of the existing SCHAUMA Shampoo Bottle. If we analyse the existing surface characteristics of a SCHAUMA Shampoo Bottle, we can characterize it as a combination of curved planes (BFD Item 5) with round edges (BFD Item 6).

BFD Pictorial Icon 2: Surroundings

Chain saws are usually used in woods, shampoo bottles are usually used in bathrooms. However on the website of SCHAUMA the products are not displayed in bathroom situations, but in rather abstract surroundings. As the main product feature of SCHAUMA “Glatt & Glossy” is to tame unruly hair and to make it smooth by adding jojoba oil, we create an abstract background, which shall metaphorically illustrate the development from rough to smooth forms. Referring to the colours of the SCHAUMA “Glatt & Glossy” shampoo bottle we colour the abstract background also in purple.

BFD Pictorial Icon 3: Representative

The brand SCHAUMA prints faces of models with beautiful hair on their shampoo bottles, but uses them also in their advertisings. Accordingly we apply the face which is

printed on the SCHAUMA “Glatt & Glossy” shampoo bottles as representative in our BFD Advertising Poster.

BFD Pictorial Icon 4: Logo and Slogan.

We apply the logo of the SCHAUMA manufacturer “Schwarzkopf” on the top right side. Additionally we added the slogan “smooth and glossy by jojoba oil” which refers to the shampoo benefits and ingredients.

Image 48 schauma glatt & glossy pictorial bfd icon 1: product



(Schauma, May 15, 2013b)

Image 49 schauma shampoo bottle bfd advertising poster



Shampoo bottle and blossom (Schauma, May 15; 2013b), face (Henkel, Apr 30, 2013)

6.2.3 DEVELOPMENT OF BFD STIMULI: WMF SAUCEPANS

Saucepans are usually no single, individually designed products. They are part of a set, which means that the same design is applied for a range of pots and pans with different sizes and functions. These sizes and functions are more or less standardized, irrespective of price or brand.

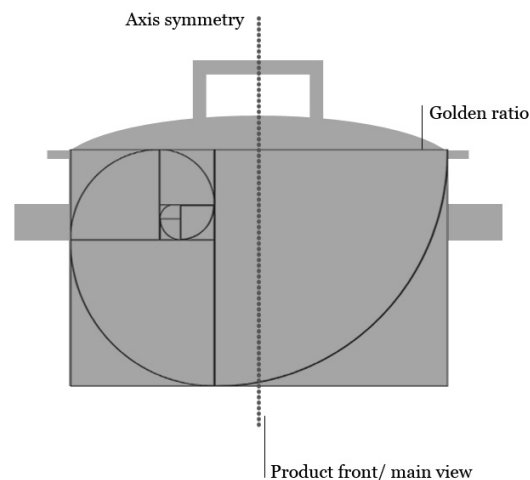
When WMF plans to design a new pot set they start with a meat pot. If the design is accepted, further pots or pans referring to this design are developed. With our WMF Saucepan BFD Stimuli we refer to meat pots with a diameter of 24 cm.

DEFINITION OF DDL1 “SURFACE” BFD ITEMS 1-3 IN THE CONTEXT OF WMF SAUCEPANS

BFD Item 1: Aesthetic Proportions

We propose that aesthetic proportions are based on axis symmetry and the golden ratio. In the case of saucepans both of these characteristics can be applied easily. As pots are usually cylindrically shaped they are axis symmetrical from many perspectives. However, we define the “front view position” with the handles on left and right side as main view. The golden ratio can also be applied without difficulties and refers to the basic silhouette of the saucepan’s main body (Image 50).

Image 50 Saucepan: Axis symmetry, golden ratio and product front/ main view



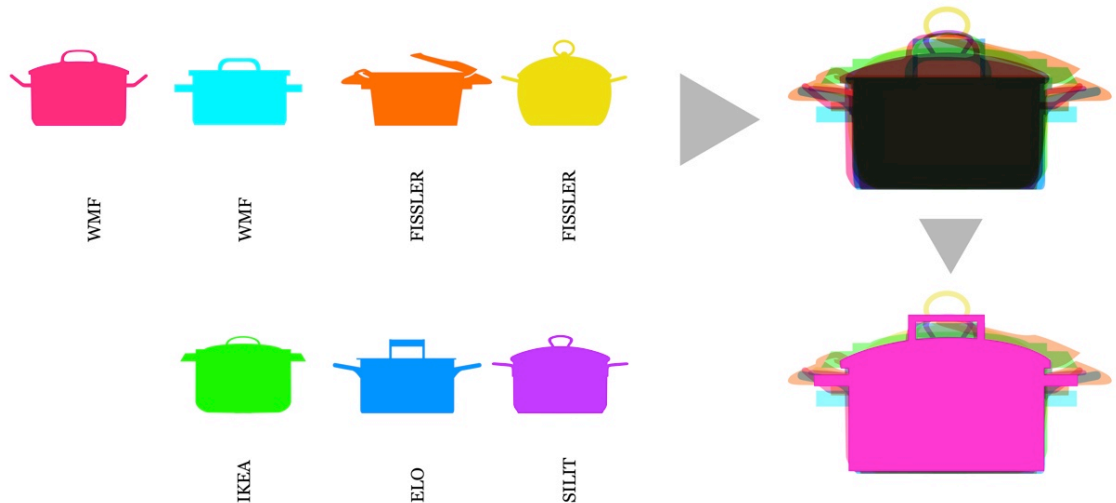
BFD Item 2: Product Category specific Proportions

There is a wide range of 24 cm meat pots, however they don't differ significantly regarding their basic proportions. In order to study and determine product specific proportions, we have superimposed the silhouettes of seven pots of five brands with a price range from € 35,00 (IKEA 2013, WWW) to € 159,00 (WMF 2013a, WWW). Accordingly we refer to a **cylindrical basic volume**, with a diameter of ca. 24 cm. The tops of the pots are either flat or convex. However, convex tops are rather common and we apply flat tops as brand relevant characteristic. Most of the pots have more or less large flanges in the area where they can be covered (Image 51).

BFD Item 3: Brand specific Proportions

In comparison with products that imply strong brand relevant proportions like e.g. Maggi, SCHAUMA, Toblerone or Porsche WMF saucepans inhere no brand relevant proportions. Similarly, like some TVs, furniture or computers it is nearly impossible to assign pots to specific brands without applying any logos.

Image 51 Product category specific proportions of saucepans



In order to create brand specific proportions, which could be assigned to WMF we adapted the design of the existing WMF Function 4 series. As WMF can be associated with German quality and design, and as "typical" German design stands for "less is more" we reduced the already simple proportions and shapes of the WMF Function 4

pot by taking away the flange in the cover area, making the bottom area rectangular and flatten the handle (Image 52). This adapted WMF Function 4 pot will be integrated in the BFD Advertising Poster and shall also be a point of reference regarding brand specific proportions suggested by us.

Image 52 Brand specific Proportions of WMF Saucepans

Evolution and definition of existing proportions

Existing WMF pot "Function 4"



Adapted WMF pot "Function 4"

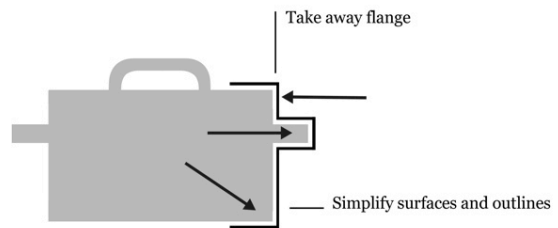
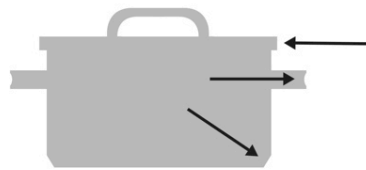


Image top left (WMF, Jul 17, 2013a)

DDL1 “GESTALT” WMF SAUCEPAN BFD STIMULI

WMF SAUCEPAN BFD STIMULUS 1 REFERRING TO DDL1_BFD_S1

WMF Saucepan BFD Stimulus 1 refers to DDL1_BFD_S1 and implies all BFD Items 1-3. With its cylindrical form it refers to saucepan-typical forms, but with the flat cover and rather thick handles it comprises also WMF-typical proportions; additionally, it is axis symmetrical and refers to the golden ratio (Image 53).

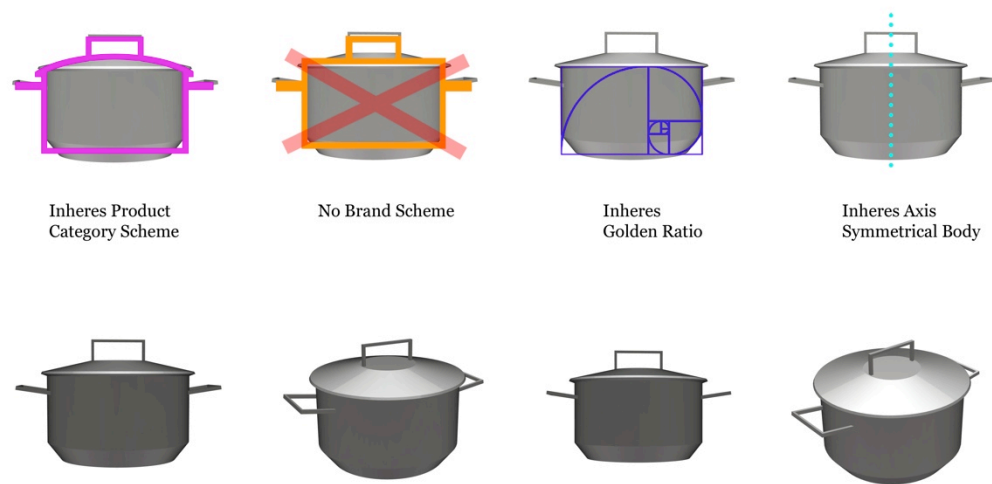
Image 53 WMF Saucepan BFD Stimulus 1 referring to DDL1_BFD_S1



WMF SAUCEPAN BFD STIMULUS 2 REFERRING TO DDL1_BFD_S2

DDL1_BFD_S2 refers to BFD Item 1: Aesthetic Proportions by applying the golden ratio in the front view and an axis symmetrical volume. It also inheres BFD Item 2 and thus is created in a way that it refers to the basic architecture of typical saucepans. Yet, in order to differ from our proposed BFD Item 3 “WMF-typical” proportions we applied a slightly conical cover with a small flange and rather thin handles (Image 54).

Image 54 WMF Saucepan BFD Stimulus 2 referring to DDL1_BFD_S2



WMF SAUCEPAN BFD STIMULUS 3 REFERRING TO DDL1_BFD_S3

WMF Saucepan BFD Stimulus 3 deviates from the product-typical, cylindrical saucepan proportions by applying a cubic Gestalt. However this BFD Stimulus refers to WMF typical proportions by applying a flat cover and rather thick handles. Furthermore it inheres golden ratio and axis symmetry and thus refers to BFD Item 1 (Image 53).

Image 55 WMF Saucepan BFD Stimulus 3 referring to DDL1_BFD_S3



WMF SAUCEPAN BFD STIMULUS 4 REFERRING TO DDL1_BFD_S4

In WMF Saucepan BFD Stimulus 4 we apply schemes referring to brand and product specific proportions, yet, aesthetic proportions of BFD Item 1 are disregarded. The basic volume is created asymmetrically and no golden ratio is applied. Nevertheless we refer to typical product schemes of saucepans. With the thick handle, the flat cover and applying no flange we refer to WMF-proportions (Image 56).

Image 56 WMF Saucepan BFD Stimulus 4 referring to DDL1_BFD_S4

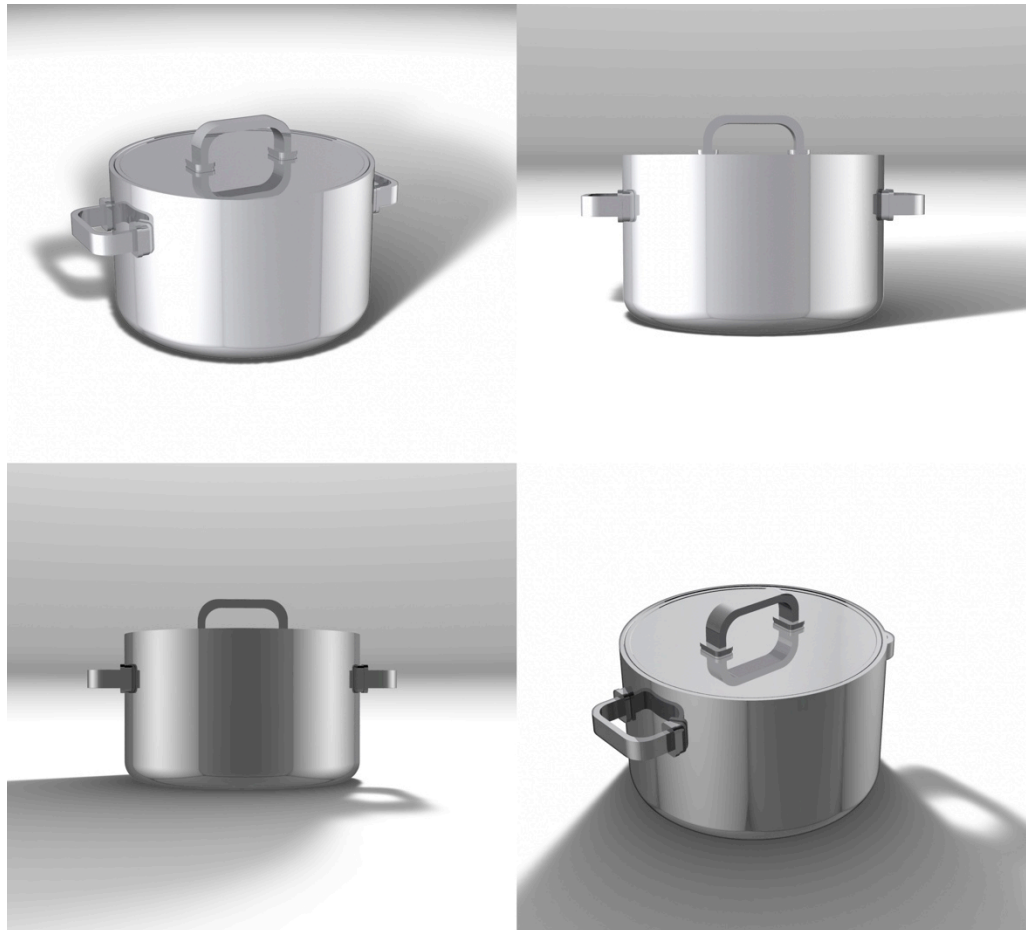


DDL2 “SURFACE” WMF SAUCEPAN BFD STIMULI

In DDL2 “Surface” we suggest WMF Saucepan BFD Stimuli, which refer to the four BFD Stimuli of DDL1 “Gestalt”. Yet, they are designed according to the four different surface characteristics, which contain flat or curved planes with rounded and/ or sharp edges. Compared to SCHAUMA Shampoo Bottles it is a little bit more difficult to identify WMF typical surface characteristics. However, if we refer to the WMF Saucepan Function 4 and the version for the BFD Advertising Poster adapted by us we define DDL2_BFD_S4, which combines flat planes (BFD Item 4) with rounded (BFD Item 6) and sharp edges (BFD Item 7) as WMF typical surface characteristics.

The following example shows a DDL2_BFD Stimulus, in the appendix all 16 BFD stimuli containing the four DDL1 Gestalts and corresponding four surface characteristics are illustrated. To visualize the surface characteristics as well as possible, we apply the highly reflective chrome-like material here as well (Image 57).

Image 57 Example of WMF Saucepan DDL2 BFD Stimulus 2



DDL3 “GRAPHICS” WMF SAUCEPAN BFD STIMULI

DEFINITION OF BFD ITEM 8 IN THE CONTEXT OF WMF SAUCEPANS

WMF products traditionally apply the WMF logo in different ways; printed, as a hallmark, engraved or etched. In the case of the Function 4 series it is located, prominently in the middle of the front view between both handles.

In the case of saucepans there are -beside logos- not many elements, which can be clearly related with brands. This may be, among other things, due to the applied

materials: Stainless steel leads to a silver metallic appearing surface. Although some saucepans are coloured, the colours are not brand specific. The brand Silit manufactures colourful pots and pans, but does not stand for a specific colour or colour combination. However, if we look at the range of saucepans offered by WMF, we can see that there are four sets of pots which contain red plastic or rubber elements in the top area and in the area between the handles and the body. IKEA applies a similar red element in its Sensuell series, which we regard as me-too product however. Accordingly, as Most Significant Distinctive Graphical Element concerning the design of a new WMF saucepan we propose to apply red plastic elements between the handles and the body and in a circular way in the area of the cover (Image 58).

Image 58 MSDGE in the case of WMF Saucepans



Images on the left (WMF, Jul 17, 2013a)

WMF SAUCEPAN BFD STIMULI REFERRING TO DDL3_BFD_S1

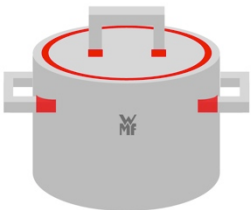

Contain logos and red elements in the cover area and between handles and body.

WMF SAUCEPAN BFD STIMULI REFERRING TO DDL3_BFD_S2

Apply only logos.

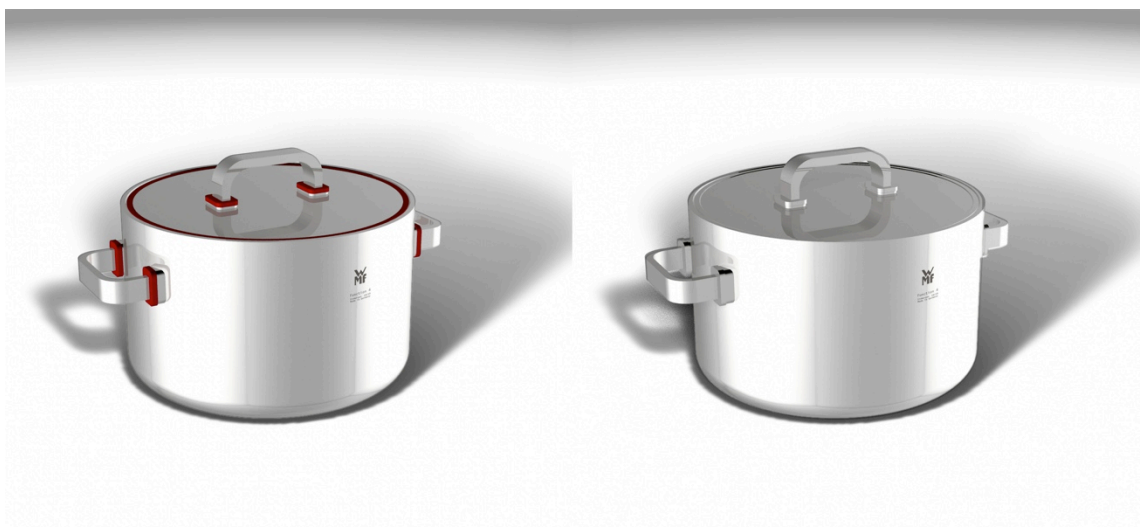
We intend that the WMF Saucepan BFD Stimuli proposed here are made of stainless steel and thus have a silver metallic looking surface.

Table 13 Graphics Scheme of BFD Stimuli in DDL 3

DDL3 BFD Stimuli	DDL3_BFD_S1	DDL3_BFD_S2
BFD Item 8: Most Significant Distinctive Graphical Element.	x	-
		

The examples in Image 59 show DDL3_BFD Stimuli in the context of WMF Saucepans, all 32 stimuli are illustrated in the appendix.

Image 59 Example of WMF Saucepan DDL3_BFD_S1 and S2



Left Image: Application of BFD Item 8: MSDGE

DEVELOPMENT OF BFD ADVERTISING POSTER REFERRING TO WMF SAUCEPANS

With the BFD Advertising Poster in the context of BFD saucepans we apply and adapt an existing advertising poster of WMF. The poster refers to the WMF campaign with the slogan “Life tastes great”, which shows people applying WMF products in a beautiful and relaxed but also highly qualitative atmosphere. We adapted the poster in so far, that we changed its size and exchanged the illustrated BFD Pictorial Icon 1: Product. Additionally we enlarged the main slogan and the logo and removed some text.

DEFINITION OF BFD PICTORIAL ICONS 1- 4 IN THE CONTEXT OF WMF SAUCEPANS

BFD Pictorial Icon 1: Product

In order to influence consumers, we show an existing WMF saucepan. Similarly, like in the case of STIHL Chain Saws, there is not a typical proportion, which stands for WMF saucepans. However, we want to simulate WMF-typical products in order to influence consumers regarding the selection of potential WMF saucepans. With BFD Item 3 we have proposed and explained WMF-typical proportions, which are also used here. We also refer to BFD Item 8 and combine the red plastic elements of the WMF Saucepans “Function 4”, “Quality One”, “Premium One” and “Comfort One” and apply them in the area of the side handles and the top. The reduced surface characteristics with flat planes (BFD Item 4) and round (BFD Item 6) and sharp edges (BFD Item 7) refer to typical “German” design characteristics as they are applied inter alia by WMF, Braun or today Apple (Image 60).

Image 6o Pictorial BFD Icon 1: Product : Adapted WMF function 4 Saucepan

Existing WMF pot “Function 4”



Adapted WMF pot “Function 4”



Left (WMF, Jul 17, 2013a)

BFD Pictorial Icon 2: Surroundings

WMF Saucepans are usually applied in kitchens, and accordingly the product is shown in this environment. Additionally, the clear and luxury forms of the kitchen and the architecture of the house underline the clean and reduced shapes of the illustrated BFD Pictorial Icon 1.

BFD Pictorial Icon 3: Representative

As BFD Pictorial Icon 3: Representative we apply the couple, which is illustrated on the original WMF advertising and which represents WMF characteristics like quality, aesthetics, intimacy and enjoyment and thus seems to fit well to the investigated product.

BFD Pictorial Icon 4: Logo and Slogan.

We apply the logo and slogan nearly identically as on the original poster. We just enlarged both, so that consumers can read and recognize logo and text more easily during the co-design process.

Image 61 wmf saucepan bfd advertising poster

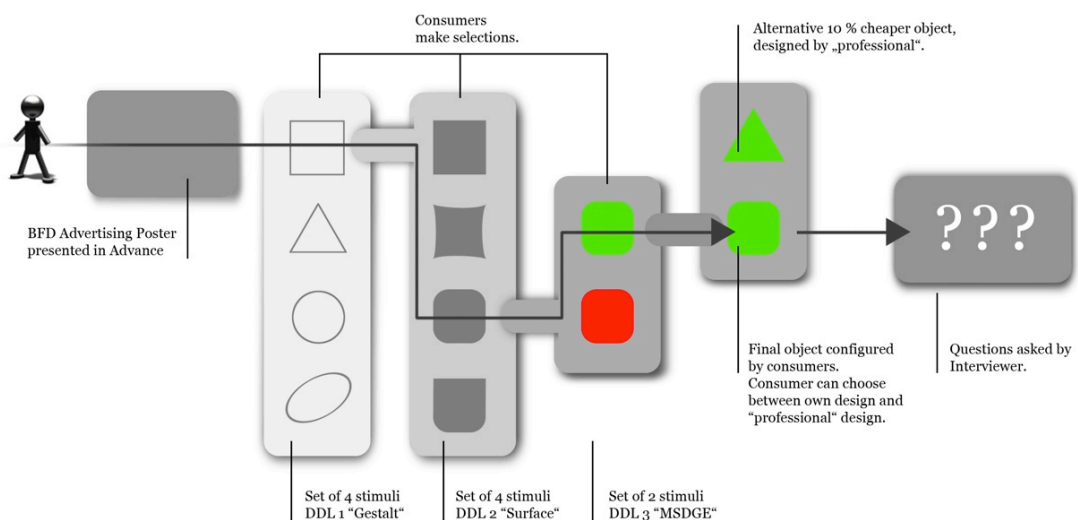


Adapted Image (Schnabel, Jul 09, 2013)

6.2.4 SIMULATED CO-DESIGN PROCESS AND ADDITIONAL QUESTIONS

In order to simulate a co-design process according to the BFD Structure we developed a method that provides the possibility for consumers to configure their preferred design within a specific framework. For this purpose we created a presentation - similar to the design of a website - with the software Apple Keynote. This presentation was shown on an Apple iPad to probands respective consumers. The presentation was designed in a self-explanatory way, with written instructions. First the BFD Advertising Poster was presented to the consumers, then they could configure their preferred design according to the three relevant Distinctive Design Levels (DDL). After consumers had configured their preferred products they were asked five additional questions by the interviewer (Image 62).

Image 62 Simulation of BFD Co-Design Process and ensuing Questions.



PROCESS AND CONTENT OF SIMULATED CO-DESIGN PROCESS

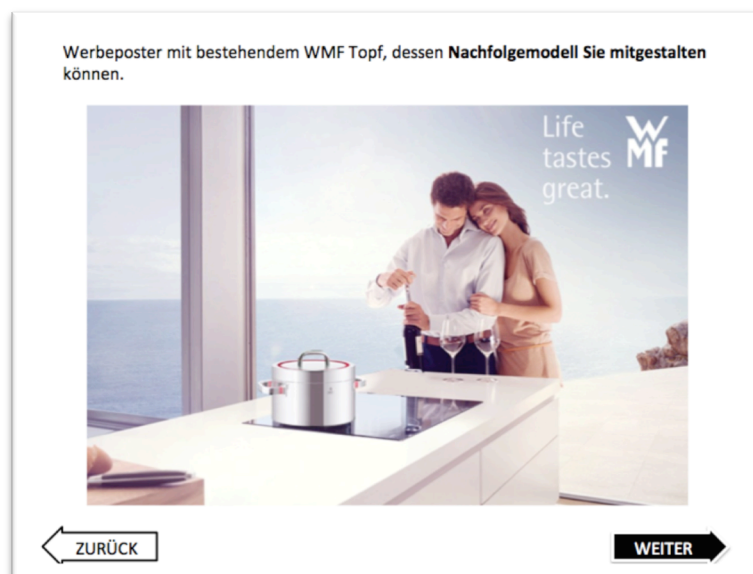
On the first slide (Image 63) a headline with some basic facts about the investigation is described: "New product design of a WMF Saucepan. On the next page you can see an Advertising Poster with an existing WMF Saucepan. In the following you can co-develop the product design of this saucepan's successor." Because the research was executed in German cities, the instructions are in the German language.

Image 63 First slide of BFD Research Presentation



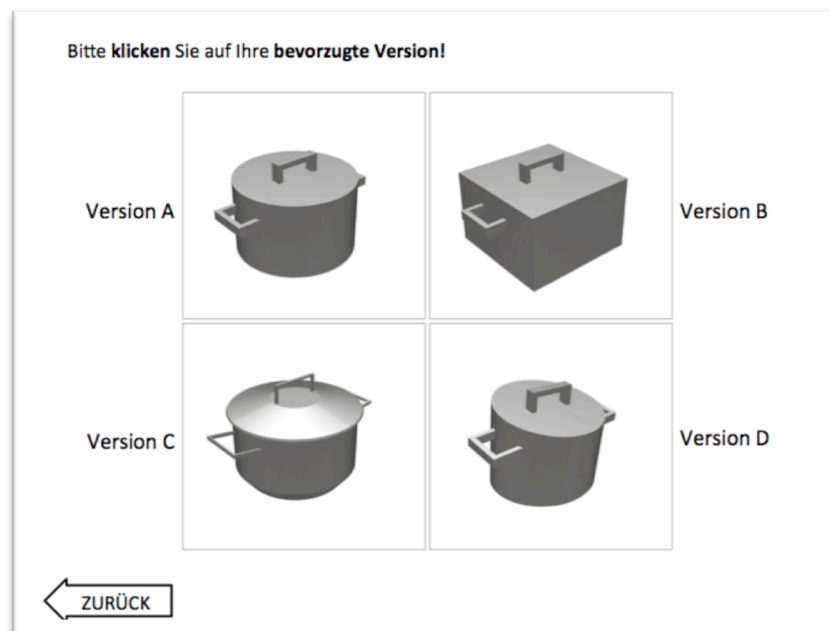
On the second slide (Image 64) we show the respective BFD Advertising Poster with the descriptive text: “Advertising poster with existing WMF Saucepan, whose successor you can co-design.” On the slides there are buttons like “weiter (forward)” and “zurück (back)”. So consumers can browse through the slides, for example when they do not understand the questions properly, to compare the stimuli or to look at them more precisely.

Image 64 Second slide of BFD Research Presentation showing BFD Advertising Poster



On the third slide the task is explained in a more detailed way: “Stellen Sie sich vor, Sie sind der WMF Chefdesigner und können aus verschiedenen Versionen Ihren Lieblingsentwurf zusammenstellen. Im Folgenden werden Ihnen 4 verschiedene Versionen vorgestellt, die schematische Grundproportionen eines Topfes darstellen. Auf jeder Seite wird eine Version in vier verschiedenen Perspektiven dargestellt. Nachdem Sie alle 4 Versionen gesehen haben, können Sie Ihre bevorzugte Version auswählen. Funktionale Aspekte sollten bei Ihrer Auswahl keine Rolle spielen. (Imagine, you are the WMF chief designer and can compose your favourite design out of four different versions. Below, 4 different versions are presented to you, which illustrate schematic basic proportions of a saucepan. On each slide one version is displayed in four different perspectives. After you have seen all 4 versions, you can select your preferred version. Functional aspects should play no role in your selection).” When the consumers have seen each version in four different perspectives all four versions are presented in the same perspective on one slide. Now consumers can select their preferred version by tapping on the respective stimulus and enter DDL2 (Image 65).

Image 65 Selection possibility DDL1.



On DDL2 the research process runs similarly. According to the selected Version in DDL1 the respective surface relevant stimuli are presented in different perspectives one

after the other and afterwards the probands can again make their selection. Once the consumers have designed their preferred surface characteristics they enter DDL3. Here consumers can choose between two stimuli. One out of the two stimuli contains the Most Significant Distinctive Graphical Element.

After the consumers have configured their preferred designs in DDL1-3 we know e.g. which type of BFD Items they prefer, which kind and which degree of scheme deviation.

However besides researching BFD relevant preferences we also want to know if consumers prefer their individually designed products. Accordingly we present two stimuli to the consumers. One stimulus is the one, which has been co-designed by the consumer. Concerning the alternative stimulus we tell the consumer that “professional” designers have designed this product. As we assume that with the same price most probands would prefer their own design we decided to integrate a price hurdle, which consumers have to pass to get their personal design.

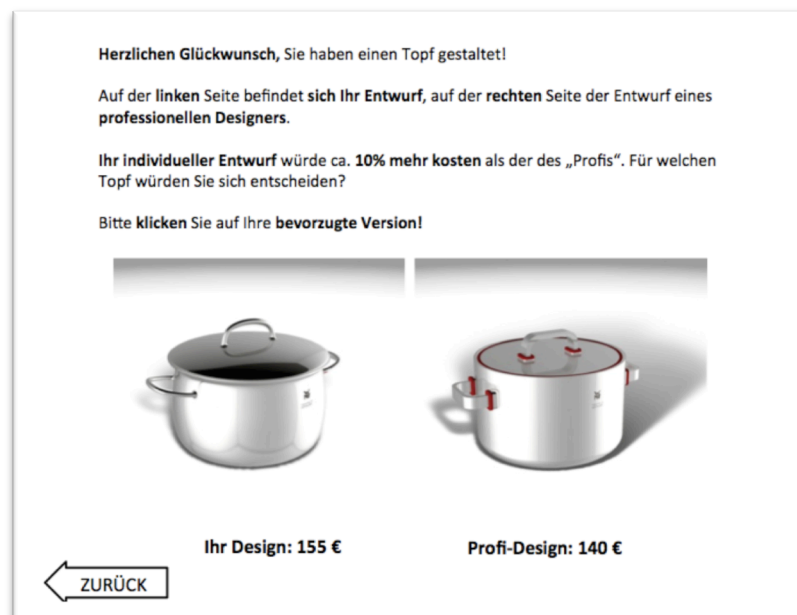
Today products can be personalized increasingly. Particularly in the field of fashion design, mass customization mostly refers to individual colours, materials, stickers or embroideries. Nike and Adidas offer the possibility to personalize shoes. Identical shoes, but customized individually are significantly more expensive. Nike Roshe Run shoes are about € 90, while the same shoes with personalized design are € 120 (Nike 2013, WWW); Adidas Samba shoes, which normally cost € 69,95 are individualized € 89,95 (Adidas 2013, WWW). But also the design of shower gel bottles can be customized. The Rossmann brand Isana offers the possibility to design the labels of its bottles individually, a normal 300 ml shower gel costs € 0,65 while the identical one, but with an individualized label, costs € 2,79 (ROSSMANN 2013, WWW). These examples show a range from about 30% higher prices for individually designed shoes to about 430% higher prizes for personalized shower gel bottle design.

However, we do not investigate how much consumers would be willing to pay for their individual design; much more we rather want to compare design of different product categories. The higher price of about 430% for an individual design of shower gel

bottles, transferred on chain saws, would mean that the personalized saw would cost about 2795 Euros instead of 650 Euros for the standard version. This difference would be most probably too big and consumers would not prefer their own design, even 30% seems too much in our opinion. Consequently we propose a 10 % higher price for an individual design; a financial threshold, which is not too high and not too low. In the case of a shampoo bottle the difference is only about some cents, but after all, for a product we usually throw away after using it, and with 65 Euros in the case of a chain saw, 10% higher prices for personal design seem to be an appropriate amount.

Finally consumers are asked to choose between their individual, personal design that is 10% more expensive compared to a design alternative, which is proposed by a “professional” designer (Image 66).

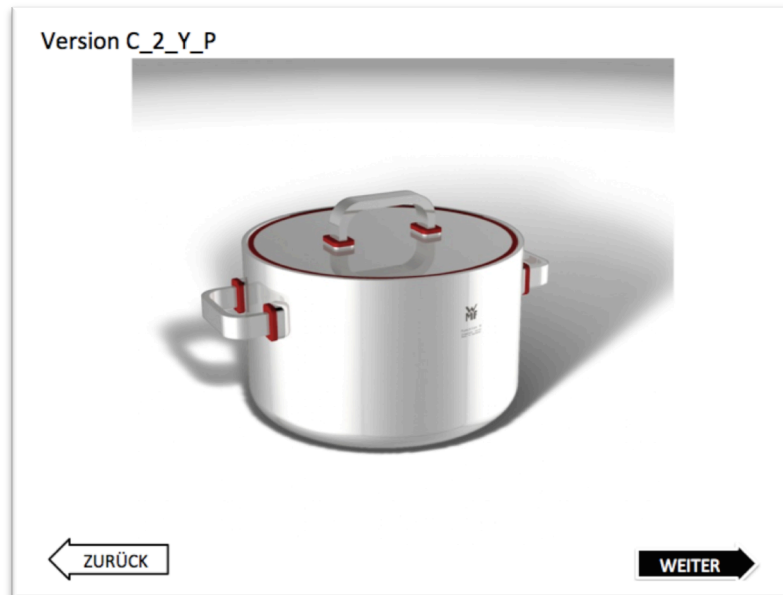
Image 66 Consumers can select between personal and “professional” design



Each slide respective stimulus is marked with a special signature. For Example, in DDL1 the stimuli referring to specific Gestalt characteristics are labelled with A, B, C, D, in DDL2 the different surface characteristics are marked with 1,2,3,4 and in DDL3 the two options are X and Y. If the consumer chooses the “professional” design it is characterized with P. The signatures were assigned randomly according to the specific

BFD Stimuli. This is why Version B corresponds to DDL1_BFD_S3 (instead of S2) or Version 3 to DDL2_BFD_S4 (Table 14).

Image 67 Consumer's final choice of his preferred WMF Saucepan



If a consumer has finally chosen for example the WMF Saucepan version C_2_Y_P (Image 687 we know that he preferred a Gestalt, which refers to BFD Item 1: Aesthetic Proportions and BFD Item 2: Product Category specific Proportions. We know that he preferred rather round surface characteristics, with BFD Item 5: Curved Planes and BFD Item 6: Round Edges. Additionally we see that he preferred a design without BFD Item 8: Most Significant Distinctive Graphical Element. An all Distinctive Design Levels (DDL) his preferred design deviates from schemes, consequently the final design deviates completely from schemes. Additionally we know, when it was about to choose between the own design and the professional design the proband preferred the cheaper "professional" alternative (Image 66 and 67).

Table 14 Labelling of Stimuli according to DDL and design research analysis

	Version	Stimulus	BFD Items:	Scheme
DDL1: Gestalt	A	DDL1_BFD_S1	1,2,3	Congruence
	B	DDL1_BFD_S3	1,3	Deviation
	C	DDL1_BFD_S2	1,2	Deviation
	D	DDL1_BFD_S4	2,3	Deviation
DDL2: Surface	1	DDL2_BFD_S1	5,6,7	Depends on brand
	2	DDL2_BFD_S2	5,6	Depends on brand
	3	DDL2_BFD_S4	4,6,7	Depends on brand
	4	DDL2_BFD_S3	4,7	Depends on brand
DDL3: MSDGE	X	DDL3_BFD_S1	8	Congruence
	Y	DDL3_BFD_S2	-	Deviation
Individual Design	P	Consumer prefers "professional", 10 % cheaper design		
	-	Consumer prefers personal, 10 % more expensive design		

Table 15 Decoding design configuration with the example Version C_2_Y_P

Configured Design: C_2_Y_P	DDL1: Gestalt: Version C	DDL2: Surface: Version 2	DDL3: MSDGE: Version Y	Individual Design: P	Degree of Scheme Deviation	Applied BFD Items:
BFD Items:	BFD Item 1: Aesthetic Proportions BFD Item 2: Product Category specific Proportions	BFD Item 5: Curved Planes BFD Item 6: Rounded Edges	No BFD Item			1,2,5,6
Schemes	Deviation	Deviation: We propose that WMF typical surface characteristics are according to DDL2_BFD_S4 inhering BFD Item 4: Flat Planes, BFD Item 6: Rounded Edges, BFD Item 7: Sharp Edges	Deviation		Deviation on all DDL: Complete scheme deviation	
Individual Design Preference				Consumer prefers 10 % cheaper "professional" design		

ADDITIONAL QUESTIONS

After consumers have co-designed and chosen their preferred products, some further questions are asked in order to identify possible relationships of the design preferences in the context of brand and product knowledge, age and gender.

1. Age?

We ask for the age in order to get a rather holistic image of design preferences. Often studies are executed in the environment of universities, our goal, however, was to get a rather universal insight in design preferences instead of an age specific snapshot.

2. Gender?

In some respect women and men seem to have different preferences. By linking gender and BFD decisions we can illuminate sex specific differences and similarities. Furthermore there are products like chain saws, which are rather used by male consumers; preferences can be discussed better when we know about such an idiosyncrasy.

3. Do you know this brand?

Brand relevant preferences can be illuminated and evaluated in a more detailed way, when we know that the consumers know the brand.

4. Do you use such a product of this brand?

We investigate potential successors of existing brand products. People who use such existing products might have a different attitude and knowledge about the products they co-design than others and consequently make different choices.

7 RESEARCH AND ANALYSIS

7.1 DATA COLLECTION

EXECUTION OF RESEARCH SURVEY

As described above, the BFD Co-Design process was simulated with the help of an Apple iPad. The presentation was designed self-explanatorily; probands could browse, navigate and make their choices by touching navigation buttons and images of their preferred design. The interviewer held the iPad upright, with the touchscreen in the direction of the probands. After the probands made their choice, the interviewer filled in the questionnaire (Appendix Image 113). First the code of the specific design, e.g. C_2_Y_P was entered in a table on the questionnaire. Secondly the five questions above described were asked and filled in by the interviewer. The whole procedure lasted between about four to six minutes. If there were any questions concerning the procedure the interviewer could help and explain without influencing the probands' decisions and answers. The survey was executed from August to October 2013 in pedestrian zones of four South German small (Balingen, probands: N = 82) and medium-sized cities (Tübingen N = 91, Ulm N = 54, Reutlingen N = 73) (Appendix Table 1).

7.2 DESCRIPTIVE ANALYSIS

BASIC RESULTS

We interviewed in total N = 300 persons. For each product category, SCHAUMA Shampoo Bottle, STIHL Chain Saw and WMF Saucepan we asked N = 100 people. The probands respective consumers were selected and approached by chance, however it was tried to get a rather balanced ratio concerned gender and age. We classified the probands into seven age brackets from under 25 years to over 76 years. 73 interviewees stated to be 25 years or younger; 44 between 25 years and 35 years; 38 between 36 years and 45 years. 56 people answered to be between 46 and 55 years;

55 probands between 56 and 65 years; 25 were between 66 years and 75 years and seven people said to be 76 or above. Only one person didn't tell the age (Appendix Table 2 and 5).

155 of all interviewed probands were male, 145 were female. However, the ratio between female and male probands is not as balanced. In the case of STIHL Chain Saws 77% of the interviewed persons were male, while in the case of WMF Saucepans 62% of the probands were female and with SCHAUMA Shampoo Bottles 60% were female. The reason why in the case of STIHL Chain Saws only 23% of the interviewed people were female derives from the situation that many approached women didn't want to participate in an investigation about chain saws (Appendix Table 2 and 5).

95,3% of the investigated persons knew the respective brand, in the case of WMF and SCHAUMA even 99%, the brand STIHL was known by 88%. As the respective brand knowledge seems to be so clear, we did not filter our results accordingly (Appendix Table 6).

7.2.1 DESCRIPTIVE ANALYSIS OF CO-DESIGNED PRODUCT DESIGNS

ANALYSIS OF COMPLETE DESIGN CONFIGURATIONS

If we look at designs configured by consumers, we can see tendencies concerning specific preferences, but also a wide spread amount of individual variations.

D_2_X, which comprises a Gestalt that inheres BFD Item 2: Product Category specific Proportions and BFD Item 3: Brand specific Proportions; surface characteristics with BFD Item 5: Curved Planes and BFD Item 6: Rounded Edges and in DDL3 BFD Item 8: MSDGE is the most configured combination overall: 11,3% of all consumers have selected D_2_X. On the second position we have A_3_X with 7%, third is D_1_X (6,7%) followed by A_1_X (6%) and C_3_Y (5,7%).

These five combinations however illustrate a high degree of heterogeneity among the selected versions. The "winner" D_2_X is so "successful" overall, because this combination was, concerning the product/ brand SCHAUMA, extraordinarily popular.

25% of all SCHAUMA probands selected D_2_X, which leads to a share of 8,3% concerning all products. Yet, concerning STIHL it was not as successful, 7% of all STIHL probands selected this version and accordingly a share of 2.3% within all products. In the case of WMF only 2% selected D_2_X and thus 0,7% of the entire configurations. This shows that even the most successful combination cannot be transferred automatically to other products/ brands and thus be regarded as a general recipe for successful BFD (Appendix Table 11 and 12).

The combination of Gestalts with surface characteristics can be seen as a base of the design appearance. Yet, if we look at general preferences concerning these combinations, there is again a high degree of heterogeneity and we only discuss configurations with a share of above ca. 10% of the total. In this respect the combination D_2 -Gestalt Version D with surface Version 2- with a share of 15% is the most successful. Version A_3 has been configured by 12%, followed by C_3 (10%) and D_1(10%), Versions A_1 (9,7%). However, here again the outcomes seems to be even more influenced by the good result of Version D_2 in the case of SCHAUMA, where 30% of all probands selected this combination. This configuration is also pretty liked in the case of STIHL (12%). Version A_3 however is preferred by more than 10% in the case of SCHAUMA (15%) and WMF (18%). C_3 is similarly to D_2 only popular in the general review, because it is liked in the case of WMF (18%). If we only regard the combinatory possibilities concerning the two basic DDL 1 and 2 we still cannot identify a general formula concerning BFD (Appendix Table 11 and 12).

Chart 1: Frequencies of by consumers configured design

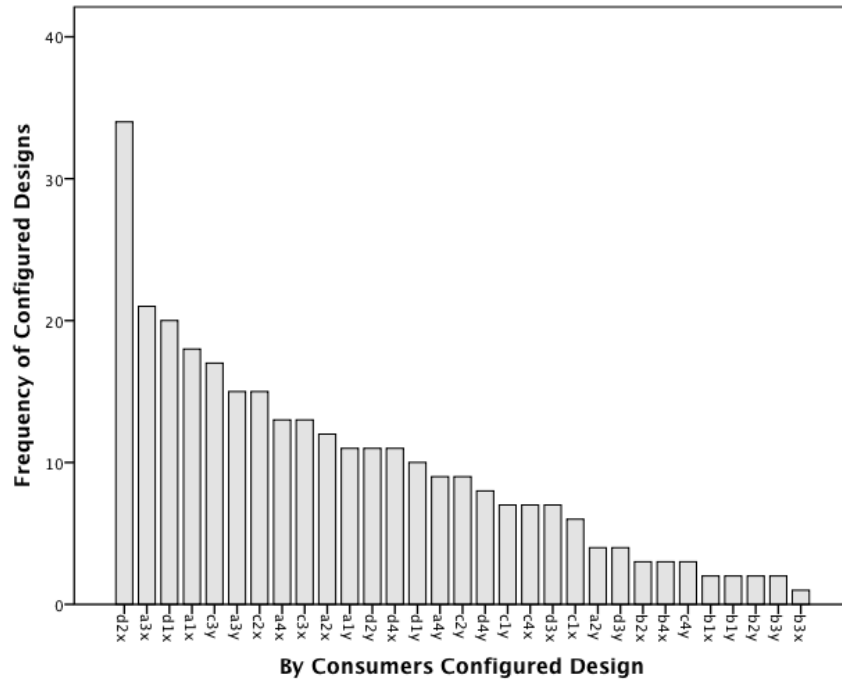
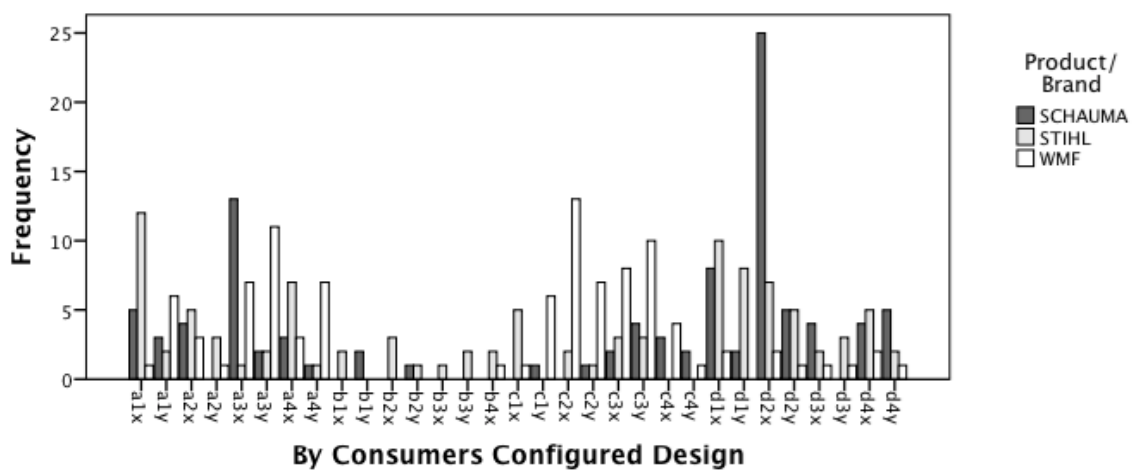


Chart 2 illustrates that there seem to be some tendencies concerning preferences however. We can see, for example, that configurations, which inhere “B” are rather underrepresented. A more precise discussion of the results regarding individual DDL and respective parameters appears needed.

Chart 2: Frequencies of by consumers configured design versus product/ brand



The above illustrated, heterogeneous BFD configurations show that the combination of BFD Items according to a BFD Structure and executed by consumers integrated in the BFD Co-Design process seem to support:

- H1. The integration of consumers in design processes leads to individually composed Brand Formative Design, which is preferred by respective consumers.

7.2.2 DESCRIPTIVE ANALYSIS OF DISTINCTIVE DESIGN LEVEL 1 GESTALT

ANALYSIS OF DDL 1 GESTALT RESULTS

Version A: Gestalt Version A refers to DDL1_BFD_S1 and BFD Item 1-3. It is completely scheme congruent. Across all product/ brand categories 34,3% consumers selected Version A. It was selected most in the case of WMF 39%, followed by STIHL 33% and SCHAUMA 31% (Appendix Table 7).

Version B: Gestalt Version B refers to DDL1_BFD_S3 and BFD Item 1 and 3, but deviates from product typical proportions. Only 5% selected Version B across all product/ brand categories and gender; it is the most unpopular version by far. In the case of STIHL 11% and with SCHAUMA 3% selected this Version; in the case of WMF it has even been selected only once (Appendix Table 7).

Version C: Represents DDL1_BFD_S2 and does not inhere BFD Item 3. It deviates from brand specific proportions. Here it is interesting that this Version is, at 50% of the selected Gestalts the most successful among WMF Saucepans, while in the case of SCHAUMA Shampoo Bottles at 13% and STIHL Chain Saws at 14% it is rather unpopular (Appendix Table 7).

Version D: DDL1_BFD_S4 refers to Gestalt Version D. It inheres BFD Item 2 and 3 but does not inhere aesthetic proportions. Across all products/ brands it is with a very tight margin of 0,7% the most popular version compared to Gestalt A: 35% selected Gestalt D. With 53% it is the most preferred Gestalt concerning SCHAUMA Shampoo Bottles,

the same is with 42% of the STIHL Chain Saw Gestalts, whereas in the case WMF Saucepans it is rather unpopular with 10% preference (Appendix Table 7).

GESTALT IN THE CONTEXT OF PRODUCT/ BRAND

SCHAUMA: Here Version D at 53% is clearly the most popular Gestalt, followed by Version A (31%) than come C (13%) and B (3%). Interesting in the case of SCHAUMA is, that consumers seem to like SCHAUMA typical and shampoo bottle typical proportions. They also like a deviation concerning symmetry and golden ratio, although the actual SCHAUMA Shampoo Bottle refers to aesthetic proportions. Overall proportions (Versions A and D) that contain a combination of brand and product specific characteristics seem to be preferred (84%) in the case of SCHAUMA (Appendix Table 7).

STIHL: Here Version D (42%) is liked most, Version A (33%) is second, then come Version C (14%) and B (11,0%). Also in the case of STIHL proportions that are not referring to BFD Item 1: Aesthetic Proportions seem to be popular, and similarly, like with SCHAUMA, STIHL consumers appreciate Gestalts that contain both, product specific and brand specific proportions (75%) (Appendix Table 7).

WMF: The most popular Gestalt with WMF Saucepans is Version C at 50%, followed by Version A (39%) and Version D (10%), at 1% Version B is rather irrelevant. In the case of WMF Gestalts, brand relevant proportions appear as relevant compared to product specific characteristics and aesthetic proportions (Appendix Table 7).

Chart 3: Preferences concerning Gestalt

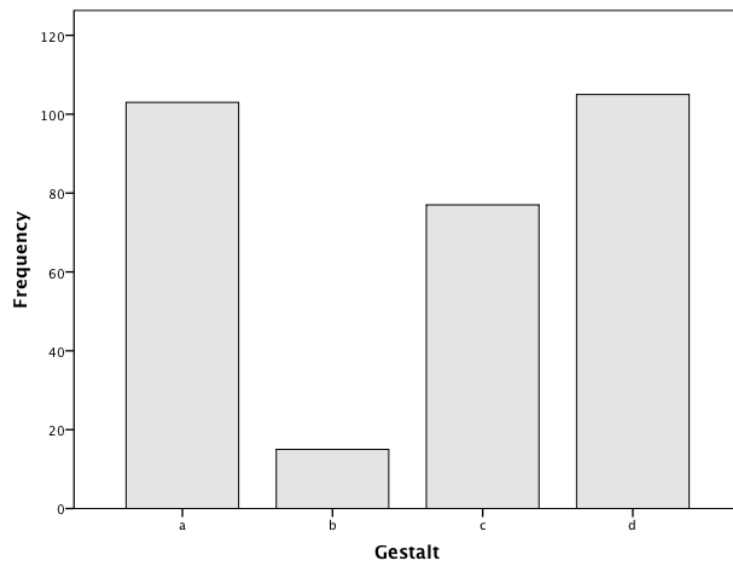
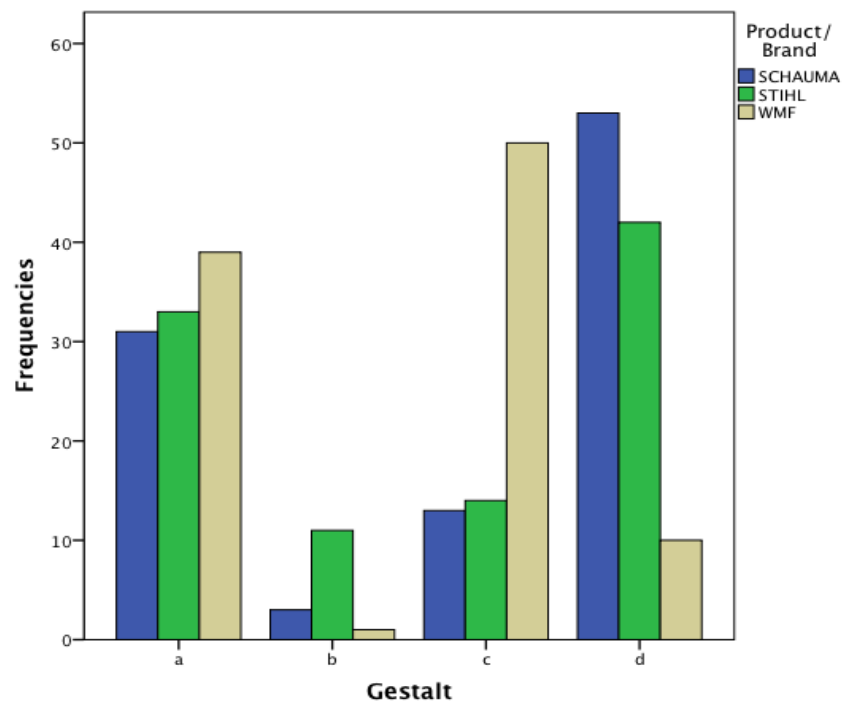


Chart 4: Preferences concerning Gestalt across all Products/ Brands



GENDER AND GESTALT

Across all products/ brands Version D at 37,2% is the most popular among female consumers (male 32,9%), while with male it is Version A at 36,8% (female 31,7%).

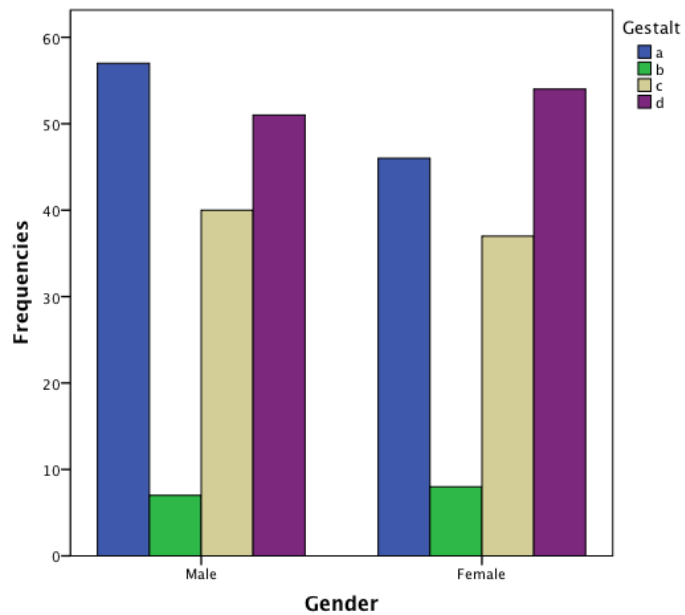
Version C is similarly popular among both genders and selected by 25,8% male and 25,5 female consumers. Also Version B is similarly liked with both genders; 4,5% of the male and 5,5% of the female probands selected these stimuli (Appendix Table 7).

SCHAUMA: Males prefer Version A (40%), Version D (32,5%) is the second popular, then comes Version C (25%). Version B (2,5%) has been chosen by one person only. Female probands like Version D clearly most (66,7%), followed by Version A (25%), Version C (5%) and B (3,3%) are similarly unpopular. If we compare the preferences of both genders, we can see that women have a rather strong tendency towards Version D, which is not as clearly preferred by male probands. The preference of Version A and D is in reverse order according to gender; this discrepancy could be of interest e.g. concerning the development of a unisex shampoo bottle design (Appendix Table 7).

STIHL: The ratio between both genders is not representative in the case of STIHL. Male consumers prefer Version D (44,2%). Then comes Version A (35,1%), followed by C (13%) and B (7,8%). Female consumers don't have such clear preferences. They also prefer Version D (34,8%) the most, followed by A (26,1%), B (21,7%) and C (17,4%). Here it is interesting that women don't seem to reject Version B as clearly as in most other cases (Appendix Table 7).

WMF: Males prefer saucepan Gestalts referring to Version C (52,6%) the most, followed by Version A (36,8%) and D (10,5%). Version B is not represented. Women have similar preferences; favourite Gestalt is Version C (48,4%), then come A (40,3%), D (9,7%) and B (1,6%). Yet, the difference between C and A is not as distinct as with the preferences of males (Appendix Table 7).

Chart 5: Preferences concerning Gestalt and Gender across all Products/ Brands



CONSUMERS WHO USE SUCH PRODUCTS OF THIS BRAND AND GESTALT

In the following we want to illuminate the relationships between consumers who use such products of this brand (to simplify we call the two groups “users” and “non-users”) and preferred Gestalts.

Overall 54% of the consumers already use products of the brands, which are represented in the investigation. From a general point of view across all three products/ brands, users have chosen Version A (35,2%), D (32,7%) and C (30,2%) in a relatively similar frequency. However, we can notice that the majority of the users reject Gestalt Version B with 1,9% very clearly. Non-users like Version D the most (37,7%), followed by Version A (33,3%), C (20,3%) and again B (8,7%) is not very popular (Appendix Table 16).

SCHAUMA: 41% of the interviewees who co-designed SCHAUMA Shampoo Bottles also use SCHAUMA Shampoo. Among users at 65,9% Gestalt Version D is the most popular, followed by Version A at 22% and C at 9,8%, one person selected Version B. Non-users also like Version D most at 44,1% followed by Version A with 37,3%, C with 15,3%, two people (3,4%) selected Version B (Appendix Table 16).

Overall the consumers seem to prefer the shampoo bottle, which is not symmetrical and not according to the golden ratio but to SCHAUMA typical and shampoo bottle typical proportions. It is interesting that this version, which deviates moderately from the actual SCHAUMA Gestalt, is the most popular among SCHAUMA users. However among non-users SCHAUMA, Version D is not as obviously the favourite Gestalt. Here Version B that completely refers to the actual SCHAUMA Shampoo Bottle is also popular. Version C that does not inhere any brand relevant characteristics is not extraordinarily popular among both groups, and Version B which does not look like a shampoo bottle is also rejected clearly.

STIHL: 44% of the probands have used a STIHL Chain Saw. With Version A (45,5%) and Version D (40,9%) users prefer chains saws, which look STIHL typical and chain saw typical; however, Version D deviates from typical aesthetic proportions. Version C, a prototypical, aesthetically designed chain saw, but not referring to STIHL specific proportions does not seem to be as attractive (11.4%) to them. Version D, which deviates from chain saw typical proportions is rejected and liked only by one consumer. Among non-users, Version D is the most popular at 42,9%; followed by Version A (23,2%), Version B (17,9%) and Version C (16,1%). Here Version D is clearly the most popular, while the other three Versions are liked in roughly similar expressions. Interestingly, non-users do not reject Gestalt Version B, which deviates from chain saw typical proportions so clearly. This might derive from the fact that consumers, due to less experience, are more open minded concerning the use of alternative chain saw concepts. With Version D a Gestalt, which does not refer to typical aesthetics but to brand and product specific proportions seems to be the largely liked. Particularly among users stimuli that inhere brand and product specific proportions are popular (Appendix Table 16).

WMF: 77% of the interviewed persons have used WMF Saucepans. A majority of them preferred Version C (51,9%), followed by Gestalt A with 36,4% and Gestalt C (10,4%); only one person liked Version B. People who don't use WMF Saucepans liked Version A most (47,8%), followed by Version C (43,5%); Version D was selected twice, Version B not at all. In the case of WMF we have a rather high degree of users. Overall pots were

preferred, which look like a typical pot, which means they should be cylindrical. Version C that does not refer to WMF typical characteristics is liked most among WMF Saucepan users. Accordingly we could assume the WMF typical proportions are not very unique and associated with the brand. Stimuli deviating from a pot specific Gestalt –in this case rectangular instead of cylindrical- are clearly rejected (Appendix Table 16).

SCHEME CONGRUENCE IN DDL1 GESTALT

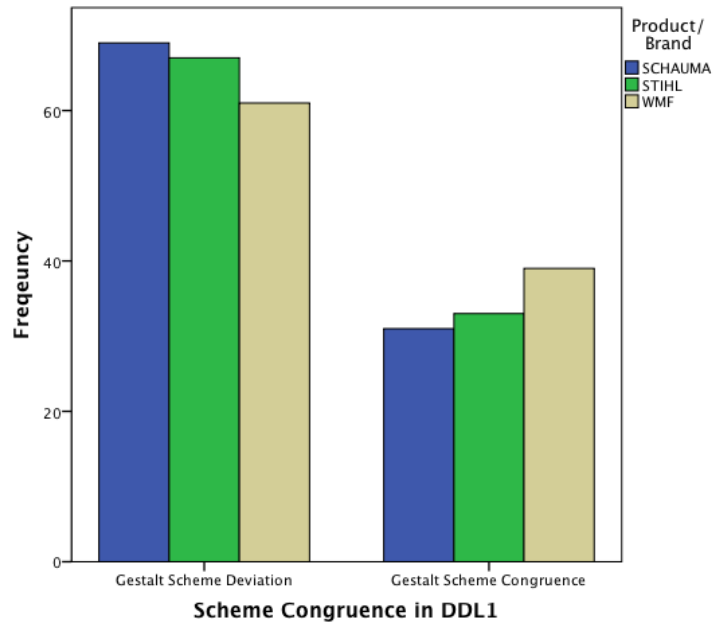
All in all 34,3% of the configured Gestalts are completely scheme congruent in DDL1 (Version A). Here we can also see a rather balanced ratio among the three products/ brands (31% SCHAUMA, 33% STIHL, 39% WMF). Although Version D, which deviates from the scheme BFD Item 1: Aesthetic Proportions is the most successful (35%) the result cannot be regarded as universally valid, because it is biased by a high amount of individual preference and rejection according to specific products/ brands (53% SCHAUMA, 42% STIHL, 10% WMF). Similarly with Version C, which deviates from the scheme BFD Item 3: Brand specific Proportions. Here the result of 25% is also biased by a high degree of preference in the case of WMF (50%), compared to SCHAUMA (13%) and STIHL (14%). Version B, which deviates from BFD Item 2: Product specific Proportions is the most unpopular among all products/ brands and is preferred in total by only 5% (Appendix Table 24).

Except of Version A, which is completely scheme congruent, all other Gestalts are developed according to a moderate scheme deviation, that means with each of the three versions, one BFD Item is missing. Accordingly we can see two tendencies that are rather similar concerning the specific products/ brands.

Scheme congruent Gestalt Version A is preferred in a fairly balanced way on an average level. Version B, however, is unpopular; accordingly the application of product category specific proportion schemes appears as very important concerning the development of BFD. Gestalt Version C and D are preferred significantly according to individual products/ brands. It seems that with the use of scheme congruent Gestalts no big mistakes are made. It appears to be recommendable to apply and test Gestalt

relevant schemes during the product development phase in order to identify surprising preferences and thus possible desires among consumers according to individual products/ brands, like e.g. in the case of SCHAUMA and Gestalt D.

Chart 6: Gestalt Scheme Congruence versus Product/ Brand



CONCLUSION ANALYSIS DDL1 GESTALT

Across all products/ brands, genders and users, the preferred Gestalts differ according to diverse parameters. However, preferences in certain expressions can be noticed and should be discussed.

If we look at Chart 2 we can see tendencies concerning Gestalt preferences. On the one hand there are clear similarities among product categories and on the other hand obvious differences. Concerning Version A and B we can notice an accumulation of preferred respective rejected Gestalts. Version A, scheme congruent according to all BFD Items 1,2 and 3 seems to be preferred among all product/ brands in a similar expression on an average level.

What can be stated clearly is that Gestalt Version B is very unpopular across product/ brand, gender and users. According to our results we can conclude that concerning the evolvement of evolutionary design it appears very important to refer to product

specific proportions. Even when the product inheres brand relevant schemes and aesthetics, people widely seem to reject designs, which do not refer to product specific schemes.

Version C though comprises aesthetics and product specific proportions but not brand relevant characteristics. It is popular concerning WMF Saucepans, but not in the case of SCHAUMA and STIHL. This might derive from the situation, that there are not very distinctive and typical WMF Saucepan specific preferences and thus consumers might prefer the Gestalt they like instead of one that could be associated with WMF.

Similarly like Version C also Version D inheres heterogeneous preferences. Proportions that do not comprise symmetry and the golden ratio were quite popular in the case of SCHAUMA Shampoo Bottles and STIHL Chain Saws. In the case of chain saws, which mostly have rather asymmetrical bodies this appears logical. Pots on the other hand are rarely asymmetrical and thus Version D seems inappropriate in this context. Yet, in the case of actual SCHAUMA Shampoo Bottle Gestalts, symmetry and golden ratio are significant characteristics; nevertheless many consumers selected stimulus Version D that deviates from BFD Item 1.

What is appropriate for one product/ brand might be wrong for the other one. From a universal point of view there seems to be only one clear finding concerning the preferred Gestalts of evolutionary products. The Gestalts of new evolutionary products should correspond to existing product category schemes in order to diminish refusal by consumers, and thus Gestalt Version B doesn't appear useful concerning Brand Formative Design. Regarding the Gestalt of Version A that is scheme congruent in DDL1, we could talk of a general possibility that might be applicable for all product categories. Version A might not lead to ecstatic preferences, but neither to big mistakes concerning new product design. Yet, if an actual product/ brand does not inhere significant brand relevant proportions it could make sense to concentrate on the development of well-executed product specific Gestalts as in the case of Version C. Version D could break up boredom concerning new and evolutionary product design. However, here it depends very much on the specific product category and the meaning of symmetry and golden ratio in this context.

Concerning Brand Formative Design

- Scheme congruent Gestalt Version A could diminish the risk of refusal but also of extraordinary desire.
- Gestalt Version B, which deviates from product category specific proportions inheres a high risk of refusal and therefore doesn't appear to be not recommendable.
- Gestalt Version C that deviates from brand specific proportions can be successful among products that don't inhere brand specific proportions so far.
- Gestalt Version D deviating from aesthetic proportions can lead to preferences concerning evolutionary products, where symmetry and golden ratio do not play a prominent role.
- Overall, Gestalts, which deviate from schemes, seem to be preferred.

These findings seem to support the following hypothesis:

- H2. BFD contributes to discover preference relevant and individual BFD characteristics.

7.2.3 DESCRIPTIVE ANALYSIS OF DISTINCTIVE DESIGN LEVEL 2 SURFACE

ANALYSIS OF DDL2 SURFACE RESULTS

Version 1: Surface Characteristic Version 1 refers to DDL2_BFD_S1 which combines BFD Item 5: Curved Planes with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges. Altogether, Version 1 was selected by 25% of the probands, in the case of STIHL it was the most successful surface characteristic with 38%. With SCHAUMA 21% selected Version 1 and at 16% of WMF consumers (Appendix Table 8).

Version 2: Combines BFD Item 5: Curved Planes with BFD Item 6: Rounded Edges and refers to DDL2_BFD_S2. It was overall the most popular surface characteristic and 30,3% of the probands selected it. Among the SCHAUMA consumers it was the most popular version at 36%, followed by STIHL (28%) and WMF (27%) (Appendix Table 8).

Version 3: Refers to DDL2_BFD_S4 and combines BFD Item 4: Flat Planes with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges. All in all 26,7% of the probands have chosen this Version, which, at 38%, was the most successful among WMF customers, followed by SCHAUMA (25%) and STIHL (17%) (Appendix Table 8).

Version 4: Inherits BFD Item 4: Flat Planes and BFD Item 7: Sharp Edges and refers to DDL2_BFD_S3. It is, at 18% preference overall, the least popular surface characteristic. 19% of the WMF, 18% of SCHAUMA and 17% of the STIHL consumers have chosen this version (Appendix Table 8).

SURFACE CHARACTERISTICS IN THE CONTEXT OF PRODUCT/ BRAND

SCHAUMA: The most preferred surface characteristic in the case of SCHAUMA is Version 2 at 36%. As Version 2 refers to the SCHAUMA surface scheme which combines BFD Item 5: Curved Planes with BFD Item 6: Rounded Edges, the most popular surface characteristic is also scheme congruent. In the case of SCHAUMA consumers seem to like also Version 3 (25%) that can be associated with rather logical

design as it applied in Apple products; however, the distance to Version 1 (21%) and Version 4 (18%) is not so clear (Appendix Table 8).

STIHL: In the case of STIHL the scheme congruent surface characteristic Version 3 is, together with Version 4, the least successful (17%). The most successful surface characteristic is Version 1 (38%) which comprises BFD Item 5: Curved Planes, BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges. Together with Version 2 (28%) both versions represent rather soft surface characteristics. 66% of the preferred surface characteristics inhere curved planes and round edges, which is interesting due to the fact that chain saws could be rather associated with danger or masculinity (Appendix Table 8).

WMF: The preferred surface characteristics of WMF, Version 3 at 38% are consistent with the WMF Surface Scheme. The second popular Version 2 at 27% refers to rather soft shapes and deviates form the surface scheme significantly (Appendix Table 8).

Chart 7: General Preferences concerning Surface Characteristic

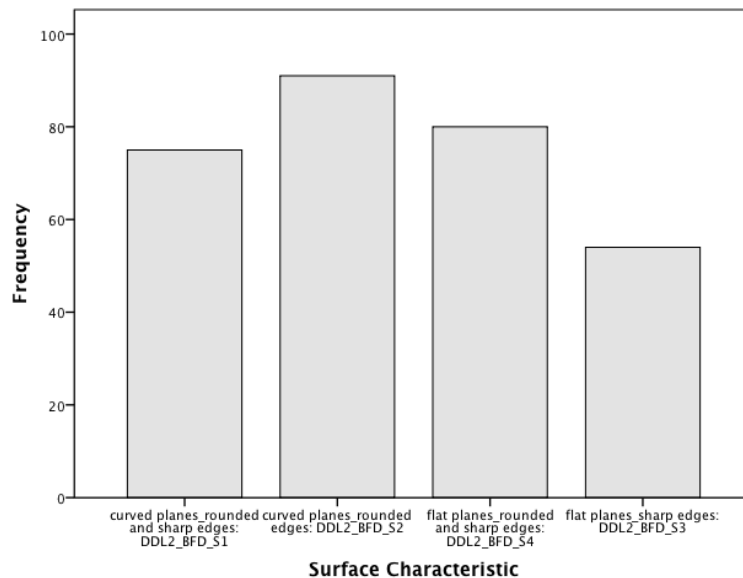
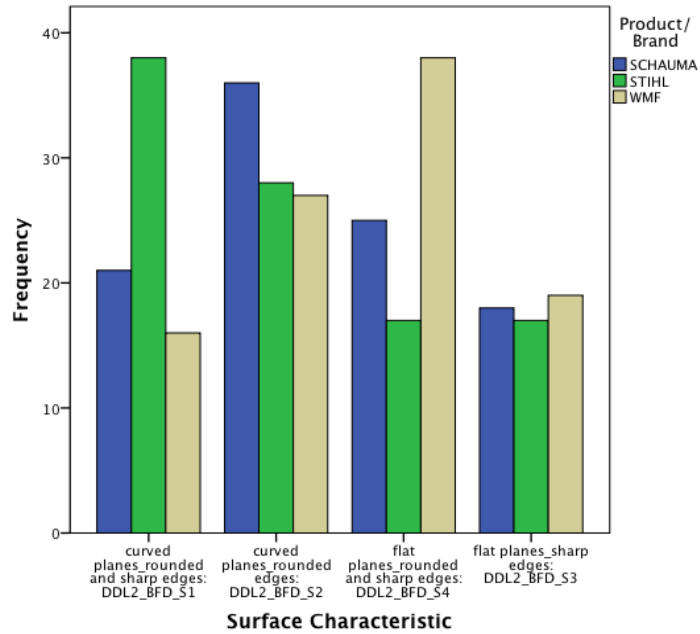


Chart 8: Preferences concerning Surface Characteristic according to Product/ Brand



SURFACE CHARACTERISTICS AND GENDER

Across all products/ brands female consumers seem to like the soft appearing Surface Characteristic Version 2 with a preference of 37,2% the most, followed by Version 3 (24,8%), Version 1 (21,4%) and Version 4 (16,6%). The rather soft surface characteristics Version 1 and 2, which both contain curved planes and rounded seem at 58,6% to be slightly preferred among female consumers (Appendix Table 8).

Male consumers don't have very clear preferences. Version 1 and Version 3 are equally popular at 28,4%, followed by Version 2 at 23,9% and Version 4 at 19,4% (Appendix Table 8).

These general surface preference tendencies concerning gender could also derive from the fact that the stimuli were not co-designed completely balanced by gender and accordingly it is recommended to look at products/ brands and gender individually.

SCHAUMA: Among male SCHAUMA consumers Version 3 (42,5%) is clearly the most popular, followed by Version 1 (22,5%) and Version 2 and 4 (both 17,5%). In the case of female SCHAUMA consumers there is a clear preference for Version 2 (48,3%),

followed by Version 1 (20%), Version 4 (18,3%) and Version 3 (13,3%) (Appendix Table 8).

Here it is interesting that the gender specific most popular surface characteristics are rather unpopular with the other gender. Version 3 is clearly preferred by male consumers, while with female consumers it is the least popular. By contrast Version 2 is the most popular among female consumers and the least liked among male consumers. As SCHAUMA uses today the same bottle design for both consumer groups this could mean e.g. for future design to develop gender specific package design.

STIHL: In the case of male STIHL consumers the most preferred surface characteristic is Version 1 at 37,7%, followed by Version 2 (28,6%), Version 4 (18,2%) and Version 3 at (15,6%). Among female consumers who are represented clearly below average (23%) in the case of chain saws we have a similar preference tendency, beginning with Version 1 (39,1%), followed by Version 2 (26,1%), Version 3 (21,7%) and Version 4 (13,0%) (Appendix Table 8).

WMF: Male consumers prefer pots with Version 3 (39,5%, followed by Version 4 (23,7%), Version 2 (21,1%) and Version 1 (15,8%). Also among female probands Version 3 (37,1%) is the most popular, Version 2 (30,6%) is the second popular, Version 1 and 4 at 16,1% each are equally preferred (Appendix Table 8).

Concerning WMF Saucepans Version 3 appears as popular with both genders. Yet, compared to men, women seem to prefer the rather soft surface characterises of Version 2.

USERS VERSUS SURFACE CHARACTERISTICS

SCHAUMA: Non-users prefer Version 2 (35,6%), followed by Version 3 (25,4%), 4 (22%) and 1 (16,9). Users also like Version 2 (36,6%) most but then Version 1 (26,8%), 3 (24,4%) and 4 (12,2%). Version 2 again seems to be attractive for both user groups; however, Version 1 is liked least by non-users, but rather popular with users. Also the

preference of Version 4 differs concerning (non-) user groups. For users it is the least preferred, while among non-users it is rather accepted (Appendix Table 17).

STIHL: Consumers who don't use STIHL Chain Saws like Version 1 (33,9%) most, second is Version 2 (30,4%) Version 3 and 4 share the third place (17,9%). The preference of users is in the same order; beginning with Version 1 (43,2%), Version 2 (25%) comes second and again versions 3 and 4 are liked equally (15,9%). Yet, among users Version 1 is preferred more clearly, but there is a tendency that both groups prefer surface characteristics, which inhere curved planes and round edges (Appendix Table 17).

WMF: The ratio between WMF users (77%) and non-users (23%) is pretty unbalanced; accordingly the results are not representative. Nevertheless, WMF non-users like Version 2 (39,1%) most, then comes Version 3 (34,8%), followed by Version 4 (17,4%), Version 1 (8,7%) is clearly the least liked. WMF users clearly like Version 3 (39%) the most, followed by Version 2 (23,4%), 4 (19,5%) and 1 (18,2%)(Appendix Table 17).

Concerning users and non-users we don't see any extraordinary peculiarities compared to the other, general impression. With SCHAUMA and WMF the brand scheme congruent surface characteristics are rather preferred by both groups, also in the case of STIHL both groups like the Versions that inhere curved planes and round edges.

SCHEME CONGRUENCE IN DDL2 SURFACE

Unlike in DDL1, scheme congruency is in DDL2 individual according to product/ brand. In DDL1 the significance of product relevant schemes or aesthetic schemes were researched while in DDL2 only about brand relevant schemes could be investigated: That means if a preferred surface characteristic corresponds to an existing brand relevant surface scheme. In the case of SCHAUMA this would mean when the surface characteristic refers to Version 2. Overall 30,3% of the configured designs are scheme congruent in DDL2. Most of the configured products are scheme congruent in the case of WMF (38%), followed by SCHAUMA (36%) and STIHL (17%). Here again there seems

to be a tendency to prefer scheme congruent design, however it also depends on the specific product/ brand (Appendix Table 25).

CONCLUSION ANALYSIS DDL2 SURFACE

Generally speaking we could state that surface characteristics depend on parameters like brand related surface scheme or even gender. Version 2 that inheres curved planes and round edges appears to be slightly preferred; a little inclination for rather round shapes (which supports existing research) can be seen, particularly among female consumers, but also –somewhat surprisingly- concerning STIHL Chain Saws. Yet the distance to Version 1 and 3 is not very distinct, Version 4 appears to be liked less.

Instead of general preferences concerning surface characteristics we can see that surface characteristics are preferred according to certain parameters like brand specific schemes or gender. Overall there seems to be a tendency that preferred surface characteristics correspond with brand specific surface schemes.

Concerning Brand Formative Design

- The “edgy” surface characteristic Version 4, which combines flat planes with sharp edges doesn’t seem to be not extraordinarily popular overall.
- Surface characteristics appear to be preferred individually according to parameters like product/ brand and gender.
-
- Brand scheme congruent surface characteristics seem to be preferred, but not concerning all products/ brands.

Accordingly the following hypothesis appears to be supported:

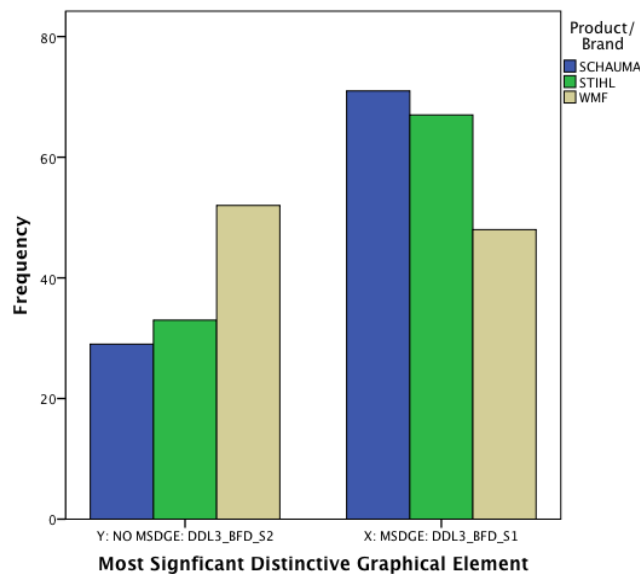
- H2. BFD contributes to discover preference relevant and individual BFD characteristics.

7.2.4 DESCRIPTIVE ANALYSIS OF DDL3 MSDGE

ANALYSIS OF DDL3 MSDGE RESULTS

Overall 62% of the consumers prefer products that contain MSDGE. In the case of SCHAUMA, 71% of the probands selected stimuli with MSDGE, with STIHL 67% of the probands preferred the typical orange and grey design, and in the case of WMF a very tight majority of 52% preferred pots, which did not contain MSDGE (Appendix Table 9).

Chart 9: Preferences concerning MSDGE respective scheme congruence according to Product/ Brand



PREFERENCE OF MSDGE VERSUS GENDER

Overall 65,8% of the male and 57,9% of the female consumers prefer stimuli which contain MSDGE. With SCHAUMA 72,5% of the male and 70% of the female probands prefer the design with MSDGE, which in this case is a woman's face. Male STIHL consumers prefer at 70,1% and female at 56,5% chains saws containing MSDGE. With WMF 50% male and 46,8% female consumers preferred pots with MSDGE (Appendix Table 18).

PREFERENCE OF MSDGE VERSUS USERS

Overall 63,6% of the users and 60% of the non-users prefer products containing MSDGE. 64,4% of the non-users and 80,5% of the users prefer MSDGE in the case of SCHAUMA. With STIHL, 58,9% of the non-users and 77,3% of the people who use STIHL prefer chain saws, painted in orange and grey, according to the MSDGE. With WMF 52,5% of the non-users and 46,8% of the users like pots containing MSDGE (Appendix Table 9).

SCHEME CONGRUENCE IN DDL3 MSDGE

Concerning DDL3 in general we can see that scheme congruent MSDGE are rather preferred at 62%. In particular with SCHAUMA there is a preference of 71%, followed by STIHL at 67% and WMF at 48% (Appendix Table 26).

CONCLUSION ANALYSIS DDL3 MDSGE

We can put the use of MSDGE on a level with scheme congruence in DDL3. Overall there seems to be a tendency that the use of MSDGE is appreciated. In the case of products with known MSDGE, like the SCHAUMA face and the STIHL colour combination a rather clear preference concerning the use of MSDGE can be observed and here particularly among product users. But also with WMF Saucepans, where MSDGE is -compared to STIHL- not as prominent so far, 48% of the probands prefer stimuli, which contain MSDGE.

Concerning Brand Formative Design

- The use of scheme congruent MSDGE seems to be preferred among consumers.

Accordingly the following hypothesis appears to be supported:

- H2. BFD contributes to discover preference relevant and individual BFD characteristics.

7.2.5 SCHEME CONGRUENCE IN GENERAL

Above, we have discussed results concerning the three DDL in the context of scheme congruence individually. According to each DDL the respective preferred design configurations can deviate or be congruent concerning different kinds of schemes.

Finally a configured design can -depending on the specific consumer- for example be completely scheme congruent: That means that on every level it refers to schemes like e.g. in the case of SCHAUMA Version A_2_X. On the other hand SCHAUMA Version B_4_Y completely deviates from schemes, Version A_4_Y deviates on two DDL from schemes and thus significantly. Version A_2_Y is congruent on two DDL and accordingly deviates moderately from schemes.

Overall with 44,7% most of the products that consumers configured deviate from schemes significantly, that means on two DDL. 35% of the probands co-designed products that deviate moderately from schemes and 16,3% selected designs, which deviate completely. It is surprising is that only 4% of all probands selected products that are completely scheme congruent (Appendix Table 27).

Among genders the preference concerning scheme deviation is pretty similar. 3,2% of the male and 4,8% of the female consumers like complete scheme congruence. The preference in the case of moderate scheme deviation is 35,5% with male and 34,5 % with female probands; 43,9% of the male and 45,5% of the female co-designers appreciate significant scheme deviation. Complete scheme deviation is preferred by 17,4% male and 15,2% female probands (Appendix Table 28).

Concerning the degree of scheme deviation there seem to be similarities among the specific products/ brands. Totally scheme congruent versions were not successful overall (SCHAUMA 4%, STIHL 1%, WMF 7%). On the other hand configured designs that deviate completely from schemes are not extraordinarily popular either, among all products/ brands the preference of such design is nearly equal (SCHAUMA 16%, STIHL 17%, WMF 16%). Moderate scheme deviation is most popular in the case of SCHAUMA (46%), followed by STIHL (32%) and WMF (27%). In contrast, significant scheme

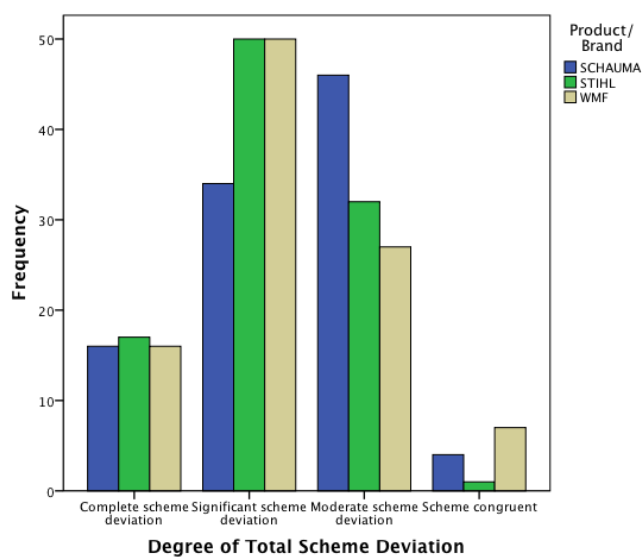
deviation is most popular in the case of WMF and STIHL (both 50%) compared to SCHAUMA at 34% (Appendix Table 27).

To conclude, it is surprising that completely scheme congruent design seems to be significantly rejected by consumers. Accordingly we could assume that consumers indeed strive for novelty and maybe surprise when it is about new product design. Even products that completely deviate from schemes and thus could cause uncertainty with consumers are more popular.

If it is about moderate or significant scheme deviation, generally, preferences are not so obvious. New SCHAUMA design is most preferred when it deviates moderately from schemes, this could be due to the evolutionary and iconic design of the existing SCHAUMA bottles and its predecessors. On the other hand WMF Saucepans and STIHL Chain Saws seem to be not as iconic, here most of the consumers like significantly new designs deviating from schemes.

Overall we could conclude that new design that deviates at least from one scheme, but with no scheme deviation from more than two schemes is widely preferred at 79,7%. However the degree of preferred deviation can depend on products/ brands (Appendix Table 27).

Chart 10: Degree of Scheme Deviation concerning Product/ Brand



If we understand moderate scheme deviation in so far, that the configured product deviates only in one DDL from a scheme, hypothesis

- H3. BFD deviates from schemes moderately

seems to be supported only partially, because compared to significant scheme deviation at 44,7%, only 35% of the configured products fulfil this criterion. We could formulate the result that BFD deviates from schemes at least moderately but rather significantly, and the degree depends on product/ brand.

7.2.6 PREFERENCE OF INDIVIDUAL DESIGN

Overall a majority of 57,7% of all consumers prefer the design they have configured themselves, although it is 10% more expensive compared to “professional” design. Of all male probands 57,4% preferred their individual designs while among female consumers 57,9% selected their own design. 61,1% of the users have chosen their own design, and 53,6% of the non-users (Appendix Table 22 and 23).

Concerning individual products/ brands the preferences of individual design are differently pronounced. In the case of SCHAUMA overall 42% selected their personal design; 45% of the male and 40% of the female SCHAUMA consumers. 43,9% of the SCHAUMA users preferred their individual design, and 40,7% of the non-users (Appendix Table 22 and 23).

Quite similar it is in the case of STIHL Chain Saws, where overall 50% of the probands chose their own design. Here 48,1% of the male consumers selected their individually designed chain saws and 56,5% of the female probands. 40,9% of the consumers who use a STIHL Chain Saw preferred its individual design compared to 57,1% of non-users (Appendix Table 23).

Regarding WMF Saucepans a pretty clear preference of the individual design can be observed, 81% of the consumers preferred their personal saucepan design. At 89,5% men rather clearly prefer their own design as well as at 75,8% of the women. Among WMF Saucepan probands 81,8% of the users and 78,3% of the non-users selected their own design (Appendix Table 22 and 23).

That consumers prefer their own –more expensive- design is particularly surprising in the case of SCHAUMA Shampoo Bottles. Although shampoo bottles are usually thrown away after they have been used after all 42% of all consumers would be willing to pay 10% more for their individual design. With the rather technical and expensive product STIHL Chain Saw, at least 50% of the consumers would pay 65 Euros more for their design. In the case of WMF Saucepans, products, which are usually used during a long period of time even a majority of 81% would prefer its own design. This leads to the conclusion that overall consumers seem to prefer their own, individually co-designed products. Yet, this preference and willingness to pay more appears to depend on the respective product category.

Concerning Brand Formative Design

- Individually co-designed products seem to be preferred by consumers, despite 10% higher prices.
- The degree of preference of personal design appears to depend on the product category.
- Even in the case of FMCGs a considerable amount of consumers seem to prefer their individual but more expensive design.

Accordingly

H1. The integration of consumers in design processes leads to individually composed Brand Formative Design, which is preferred by respective consumers.

appears to be supported.

7.2.7 FURTHER OBSERVATIONS

Beside the above presented results and analyses, we have made, so to speak as a byproduct, some further rather qualitative observations which could also be of interest.

ANALYSIS, ACTUAL STATUS AND GOALS

When we developed the BFD Stimuli we had to analyse the respective existing products/ brands and respective BFD Items. By doing so, it showed that in the case of WMF there were no particularly unique brand specific proportions or with the brand STIHL no typical surface characteristics. On the other hand, also distinctive existing brand relevant characteristics could be identified, like the SCHAUMA typical proportions or the STIHL colour combination. Accordingly the BFD Structure could also contribute as a framework to analyse actual states of product or brand relevant characteristics and accordingly to formulate future Brand Formative Design goals or to strengthen existing brand relevant characteristics.

DESIGN DEVELOPMENT DIVERSITY

The development of the BFD Stimuli referring to the BFD Structure is also interesting from a designer's perspective. According to the specific BFD Items, the designer was during this research "forced" to develop corresponding product designs. Variations were developed, which the designer would not even have taken into consideration, e.g. due to personal taste or other reasons. Therefore concerning new product design, BFD Structure could also contribute to organize creativity and design diversity. The designs preferred by the author respective designer were not the designs, which were also the most popular among the consumers. This experience illustrates the gap between designers' and consumers' tastes, which doesn't seem to be so unusual in real life as well. In this case BFD Structure could also provide a neutral distance between designer and design decision by putting the consumer preference into the focus.

Concerning Brand Formative Design

- BFD Structure could help to analyse existing design.
- BFD Structure could contribute to create design diversity.

7.3 GENERAL CONCLUSION, IMPLICATIONS FOR MANAGERS AND FURTHER RESEARCH

7.3.1 GENERAL CONCLUSION

Brand Formative Design (BFD) contains BFD Structure, BFD Stimuli and BFD Advertising Posters. By executing this research it showed that BFD does not depend only on individual BFD Stimuli respective BFD Items, but also on existing brand relevant knowledge, which is anchored in the consumers' mind and which was refreshed or supported in advance of the BFD Co-Design Process by help of the BFD Advertising Poster. BFD is based on the BFD Structure, because it is not only about the amount and kind of BFD Items, but also about their individual composition by consumers. In this respect we could discover tendencies and preferences, some of rather universal kind and some individually depending on parameters like product/ brand or gender. It could be observed that the integration of consumers inheres various advantages: To identify preferences and patterns but also concerning the creation of a relationship between consumers and their individually configured design. Furthermore BFD is characterized by a balanced progressive design that may deviate from schemes, but not extremely. BFD seems to be a possibility to detect surprising preferences, to avoid rejection, to look ahead and to build up relationships with consumers, but also to structure and analyse design development.

However, our research did not result in a simple general formula, which absolutely leads to the perfect product design. Overall the results are quite heterogeneous among consumers and products/ brands. Yet, it showed some tendencies, preferences and some pretty surprising results but also rather clear rejections concerning Brand Formative Design (BFD).

The BFD Structure was applied by executing the research interviews respective co-design processes. Within a given structure or framework consumers could configure their preferred designs. In this respect there appeared no difficulties, many probands even seemed to have fun and to be excited while executing the co-design process. BFD Structure can contribute to organize co-design development in the context of brands, products categories, schemes, individual design characteristics and consumers. Compared to existing common design development processes, design proposals can be developed and assessed by consumers and managers according to comparable characteristics. BFD Structure can contribute to detect -even surprisingly- consumer preferences but also rejections. While it might overstrain some consumers to completely develop a new product design, BFD Structure can provide a framework which accompanies co-designers within a structure: On the one hand consumers can express their preferences on the other hand the respective company can determine the framework.

Concerning the proportions of products and brands there appeared some rather surprising tendencies and results. What seems to be clear is that in the case of evolutionary products, BFD should be congruent according to product specific proportions. It is surprising, however, that consumers seem to like also product design that is not created according to symmetry and golden ratio: We did not expect that such Gestalts would be so successful, as they were indeed in the case of SCHAUMA and STIHL. Nevertheless, preferences can be very individual according to product/brand, because in the case of WMF Saucepans such kind of proportion was rather unpopular. On the other hand, complete scheme congruent proportions could be called the "smallest common denominator". Such rather average proportions appear not really wrong, but not really exciting either. Accordingly it could be recommended to develop and test preferred scheme deviating proportions individually concerning product/brand in order to stand out from the huge mass but also to avoid rejection. In this respect, design development according to BFD Structure and Gestalt could contribute to detect such individually preferred proportions according to specific consumer groups, products and brands. In addition the significance or even existence of brand specific proportions can be examined with the BFD Co-Design Process. In the

case of WMF Saucepans, brand relevant proportions don't seem to play an important role. Consequently, a manufacturer not associated with strong brand specific proportions so far, could start to create unique, recognizable and brand specific proportions for the future.

In the area of BFD surface characteristics no universally valid preferences concerning a specific surface characteristic could be detected; just the combination of flat planes with sharp edges doesn't seem very popular. Generally, there seems to be a tendency that preferred surface characteristics correspond with brand specific surface schemes and thus depend on individual characteristics like product/ brand but also gender. Yet, also quite surprising results occurred here, like the preference of rather "soft" surface characteristics in the case of chain saws. Consequently it could be recommended to proceed individually here, e.g. according to product/ brand and to identify specific preferences by executing a BFD Co-Design Process. It could be analysed if a brand stands for any specific surface characteristic, and if specific brand relevant surface characteristics should be determined for future design strategies.

Especially with products like STIHL Chain Saws where MSDGE are obviously connected with the product/ brand, they seem to play an important role. However, also with products like WMF Saucepans which don't inhere such prominent MSDGE so far, it seems to be worth while to develop them further.

Concerning scheme deviation in the context of BFD it is interesting that neither complete scheme deviation nor complete congruence appears extraordinarily popular. Much more, depending on product/ brand moderate and significant scheme deviation seems to be preferred and leads to the conclusion that also with evolutionary products consumers like progress or even moderate friction instead of boredom.

"Tastes are different" and consumers like their tastes, respective individually configured designs. A range of pretty heterogeneous design configurations and the willingness to pay more for personal design can be seen here; consumers seem to like their individual "design-babies", even if they are related with additional costs.

However, also critical questions occur: How would consumers decide if it gets serious? If they “buy” a “real” product? Would they still be willing to pay more for their individual shampoo bottle design or saucepan? Would they still choose an extreme design? What about questions like technical restrictions? And, what if they did not like any of the proposed stimuli at all? All these questions are justified, but today it is nearly impossible to cover all questions around this multi faceted area.

Brand Formative Design is not only based on an array of certain BFD Items, but on an interactive BFD Co-Design process, which allows consumers to form individual designs and thus to detect specific but also rather general preferences. In a general review our hypothesis seems to be tendentially supported. Yet, some of them rather referring to the general structure and some more to details.

Nevertheless there seem to be tendencies and observations that could be applicable and relevant for Brand Formative Design research, management and practice.

7.3.2 IMPLICATIONS FOR MANAGERS

BFD seems to provide various possibilities concerning the development of evolutionary product design. BFD can help companies to analyse their design and brand specific actual state and derive goals from such analyses.

BFD can also contribute to objectify design relevant decisions; due to referring to the same BFD Items the specific stimuli and their characteristics could be compared better. Furthermore BFD can be a medium to use the same design relevant “language”. When people with different professional backgrounds discuss a specific product design, referring to terms respective items like “curved planes”, “rounded edges” or “brand specific proportions”, this can be understood by all persons in the same way, compared to terms like “dynamic form” which contains a wide range of individual interpretation. BFD can also contribute to create a distance between designers or managers and design relevant decisions. Today often personal tastes of decision-makers play an important role; BFD however sets consumer preferences in the foreground.

Findings based on BFD Co-Design Processes can be applied to develop target oriented product design. If we take the example of the by us investigated design of a SCHAUMA Shampoo Bottle, investigated by us some individual gender specific preferences could be observed. Female consumers clearly preferred at 66,7% the Gestalt Version D (male 32,5%). Concerning Version A it was the contrary at 40% male and 25% female preference. Concerning the favoured surface characteristics the results were even clearer among the genders; with 42,5% male consumers preferred Version 3 the most (female 13,3%) and contrary Version 2 was the most popular among females with 48,3% (male 17,5%). The results show that male and female consumers prefer in both times the opposite versions. Derived from such findings the company SCHAUMA could develop two different gender specific SCHAUMA Shampoo Bottles instead of one unisex package. Concerning female consumers a bottle referring to Version D_2 could make sense and also in the case of male Version A_3. Another option would be to refer in both cases to Gestalt Version D, which is clearly liked by females, but seems to be also accepted among males, yet concerning the surface characteristics gender specific preferences could be used. Similar to this gender specific example, observations based on BFD could also be applied concerning other parameters. Knowledge based on BFD could also contribute to deliberately exclude unwelcome consumer groups.

By such target oriented product design development, BFD might also help to limit risks of rejection without making rather boring average design. BFD can show clear preferences but also what consumers do not like, as e.g. Gestalts, which deviate from product category specific schemes. However, according to individual products/ brands, design can be applied that inheres accepted frictions and thus could contribute to overcome rejection but also boredom. In this respect BFD can contribute to detect accepted or even demanded frictions like asymmetry or surprising preferences as rather soft shapes in the case of chain saws.

BFD can be interesting for companies also due to the increasing significance of the Internet and Rapid Prototyping manufacturing processes. If BFD were applied online, consumer relevant preferences could be investigated and detected in real time and implemented in new product design developments. Trend specific reaction time could

be minimized. It could even go so far that products are immediately manufactured according to individual configurations of consumers and thus consumer integration in the context of BFD could also contribute to create and strengthen relationships between consumers and brands in future with new challenges concerning global competition and growing diversity.

7.3.3 FURTHER RESEARCH

Our research strives to be a further step in the area of design and marketing research. The combination of design and brand, consumer integration and research, which doesn't investigate existing but hypothetical future products still contains a wide range of topics and questions that deserve to be explored.

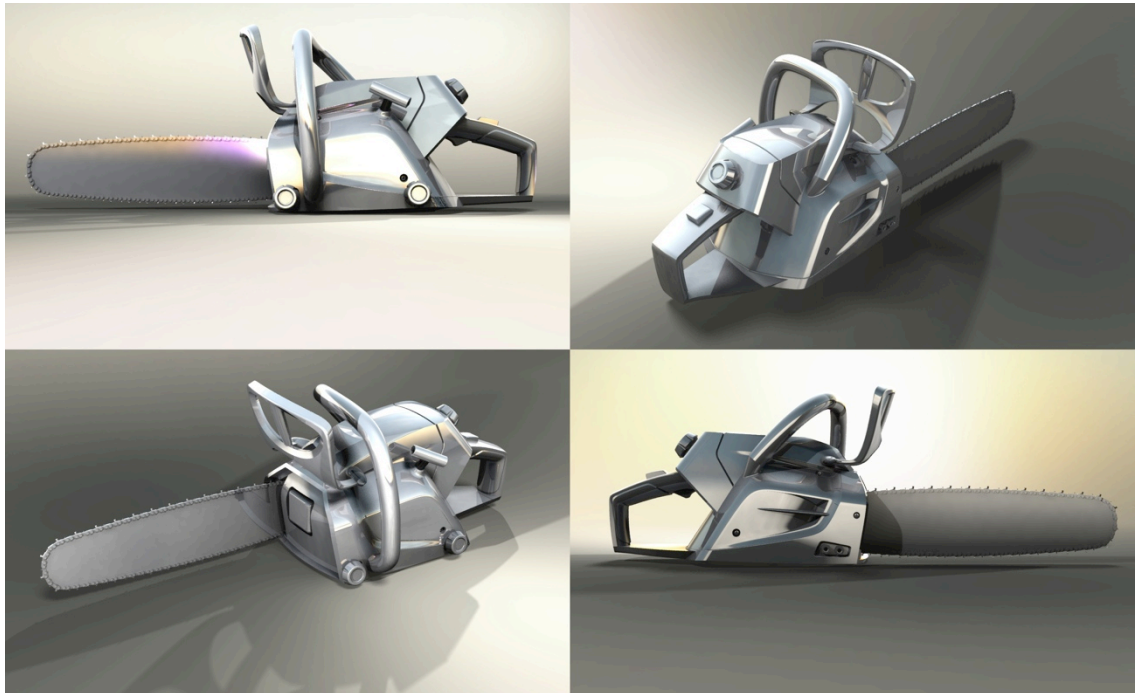
An interesting question could be how consumers would decide if they could see and compare all stimuli developed here. Would there still be the same preference as when consumers co-design the products? Would consumers configure the above-discussed stimuli differently, if the stimuli refer to no or a different brand? It could be also interesting to extend the BFD research to other products, like e.g. cars or furniture. But also to investigate BFD in an intercultural context might be exciting, for example to compare rather individualistic with rather conformist societies. In this respect also questions around Web 2.0 and rapid prototyping contain lots of potential.

To conclude, design and marketing is an interesting and exciting field of tension, which deserves more attention and promises exciting and surprising discoveries.

8 APPENDIX

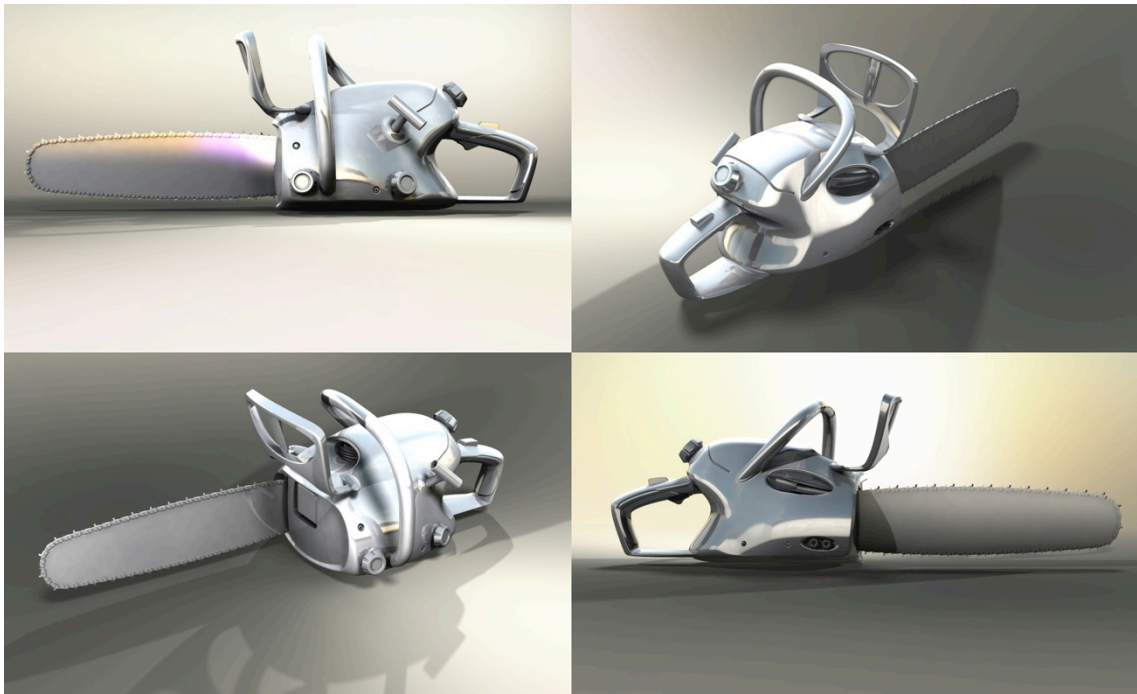
8.1 BFD STIMULI: STIHL CHAIN SAWS

Appendix Image 1 Chain Saw BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S1



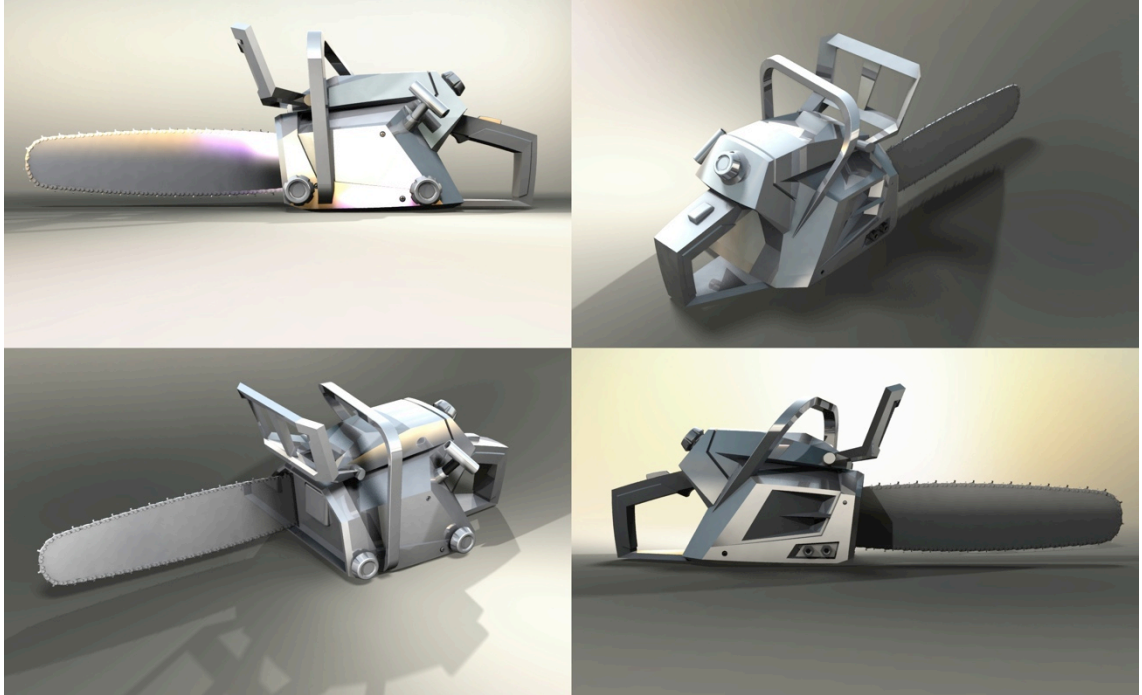
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Ppendix Image 2 Chain Saw BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S2



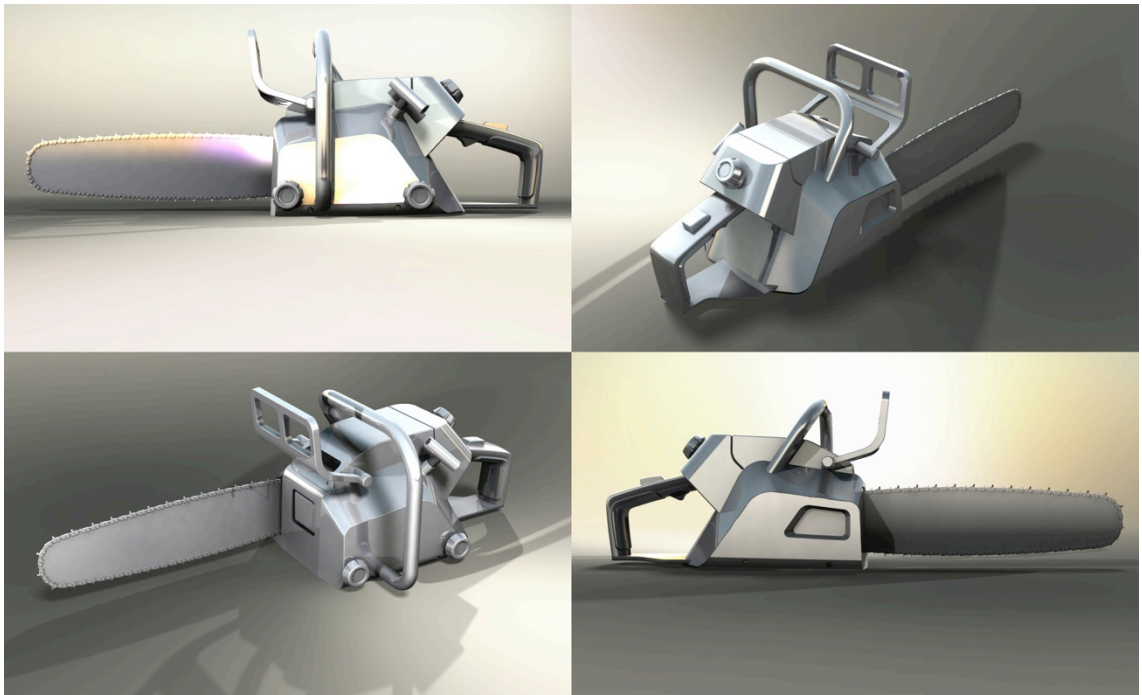
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 3 Chain Saw BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S3



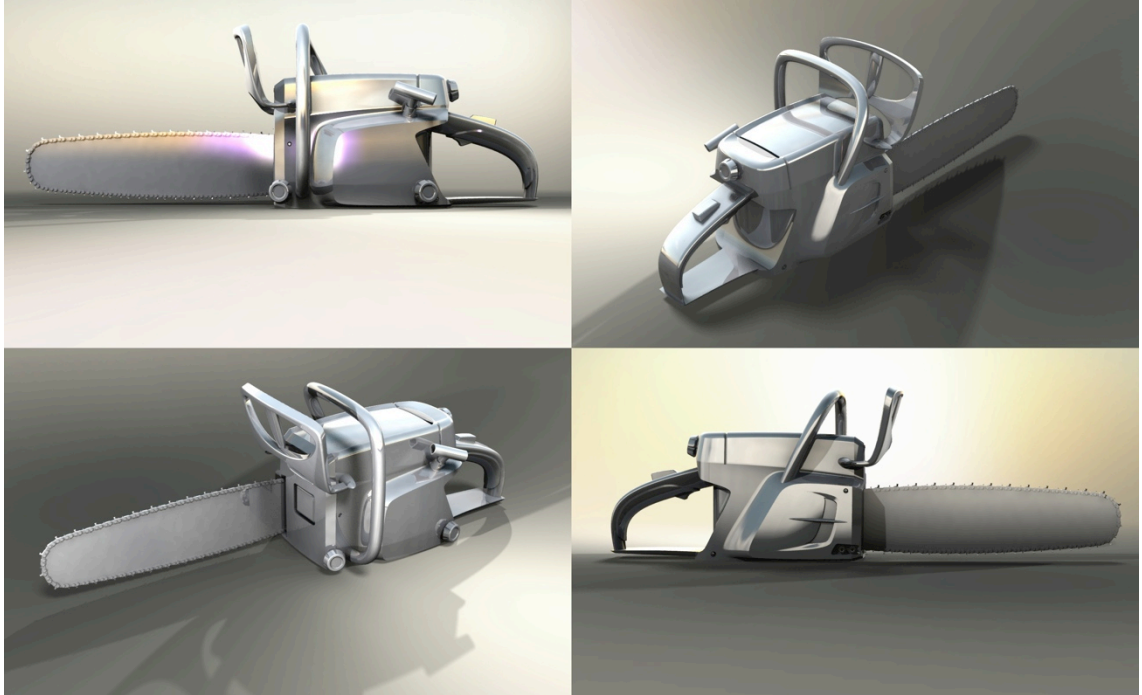
Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 4 Chain Saw BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S4



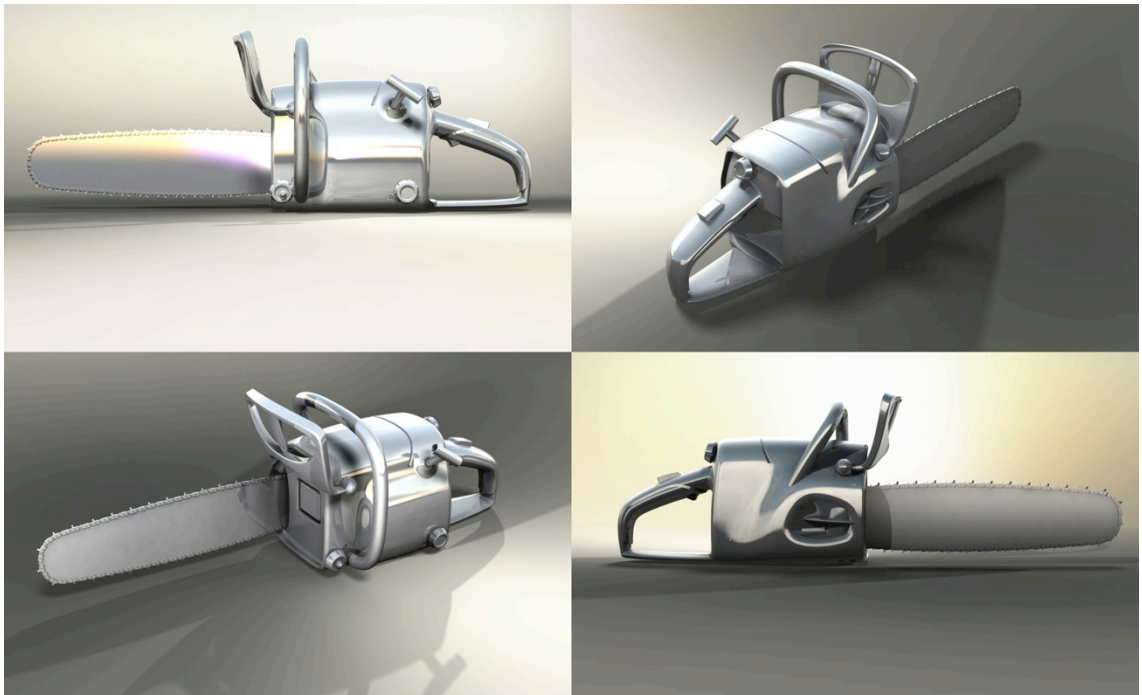
Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 5 Chain Saw BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S1



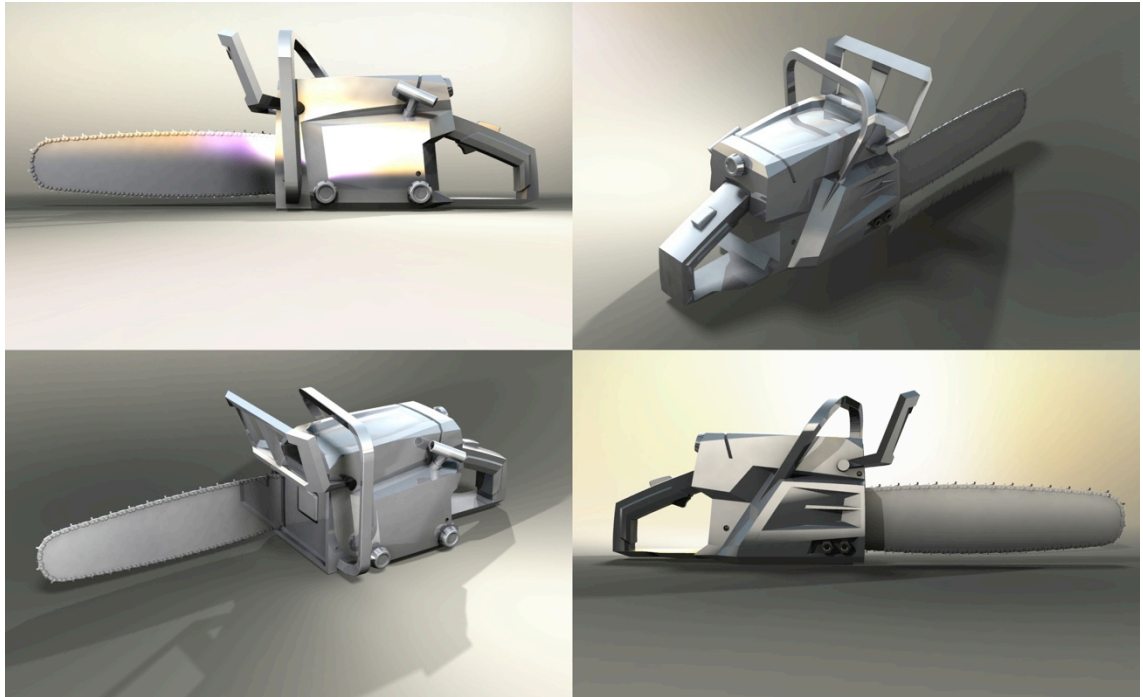
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 6 Chain Saw BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S2



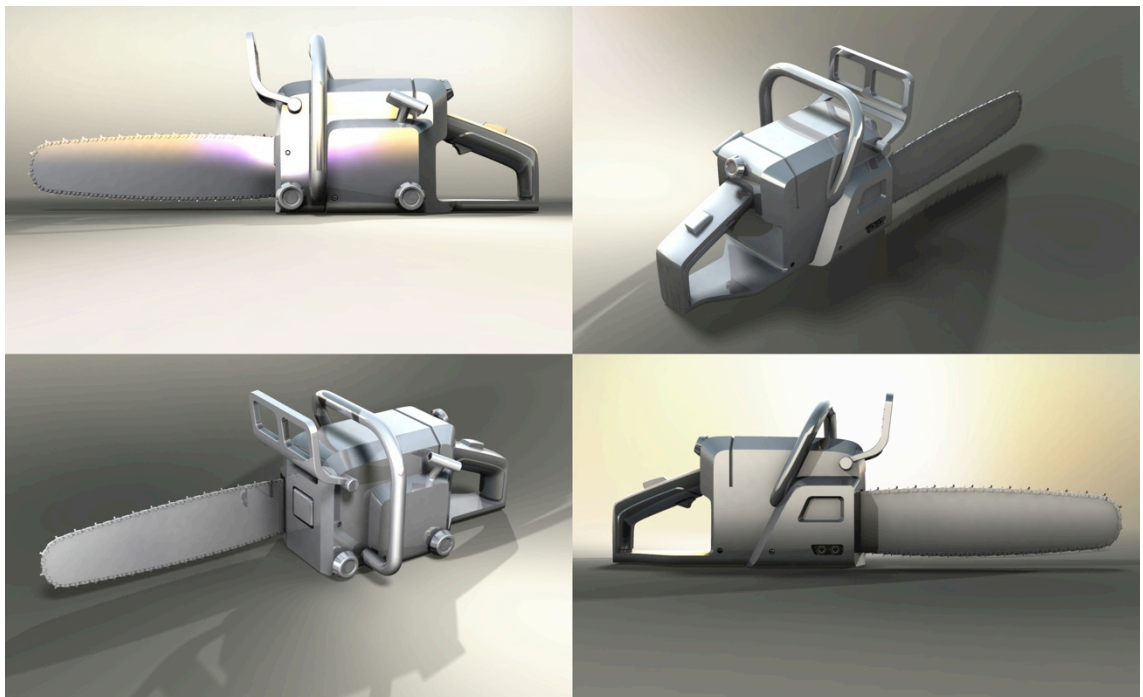
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 7 Chain Saw BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S3



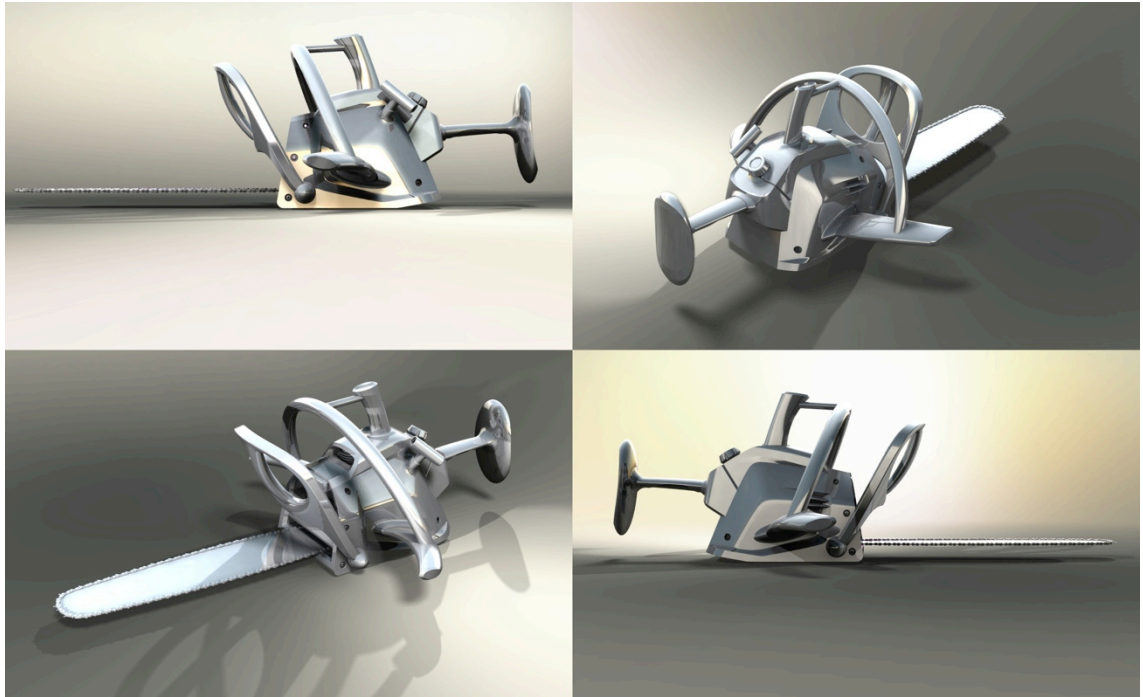
Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 8 Chain Saw BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S4



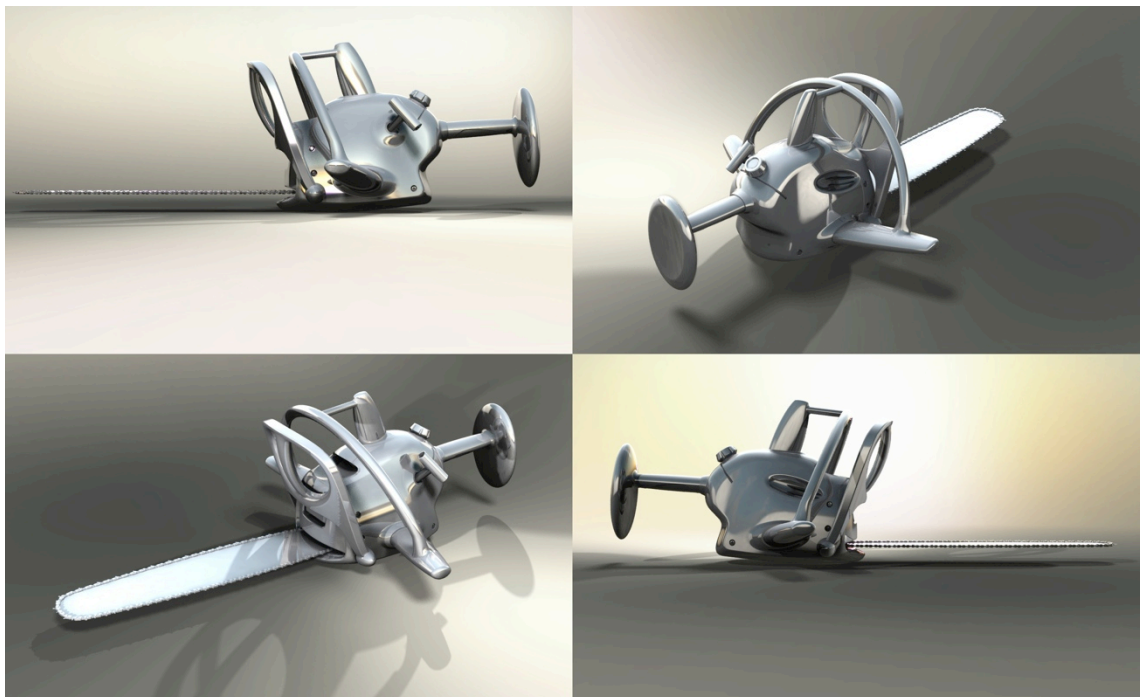
Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 9 Chain Saw BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S1



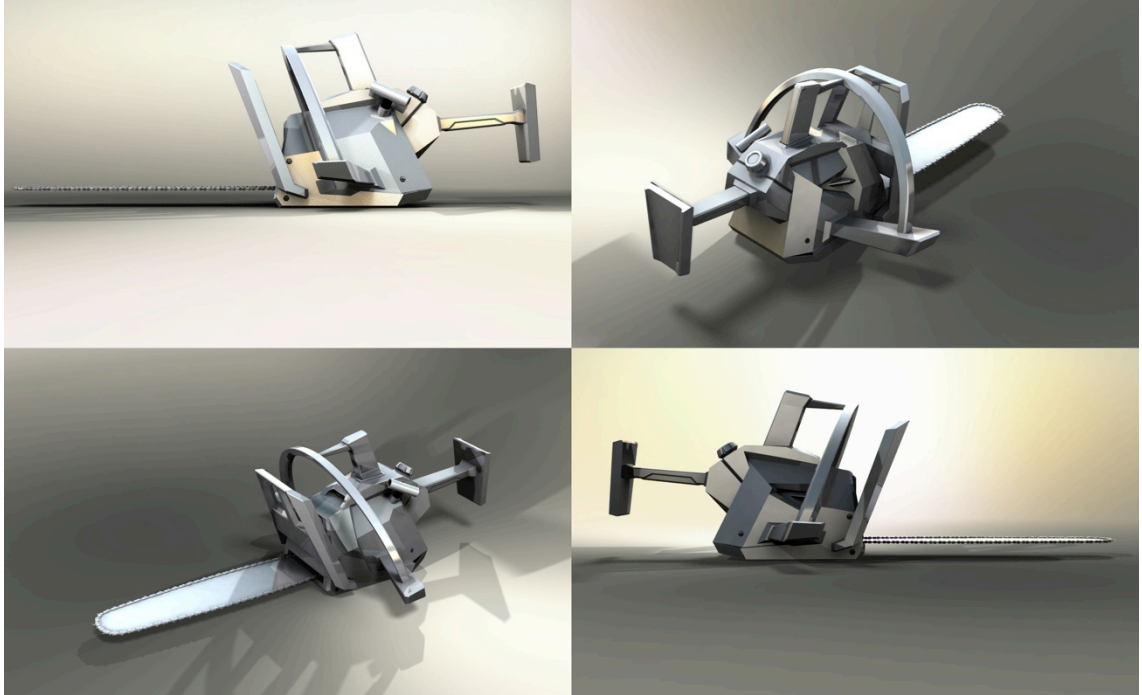
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 10 Chain Saw BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S2



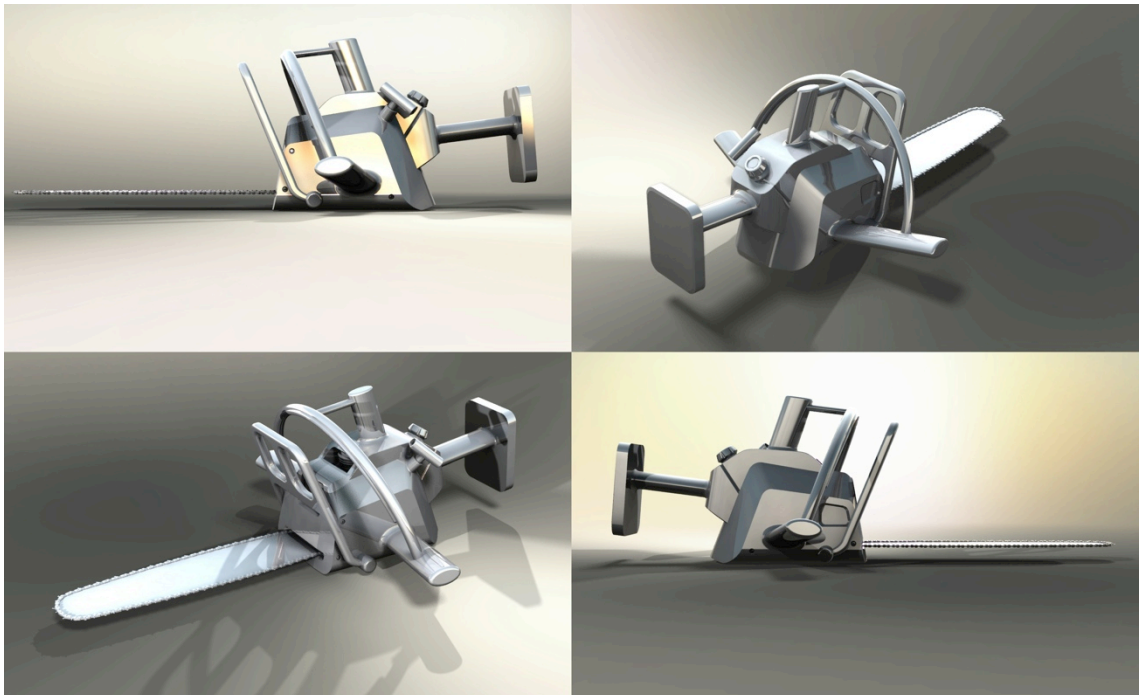
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 11 Chain Saw BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S3



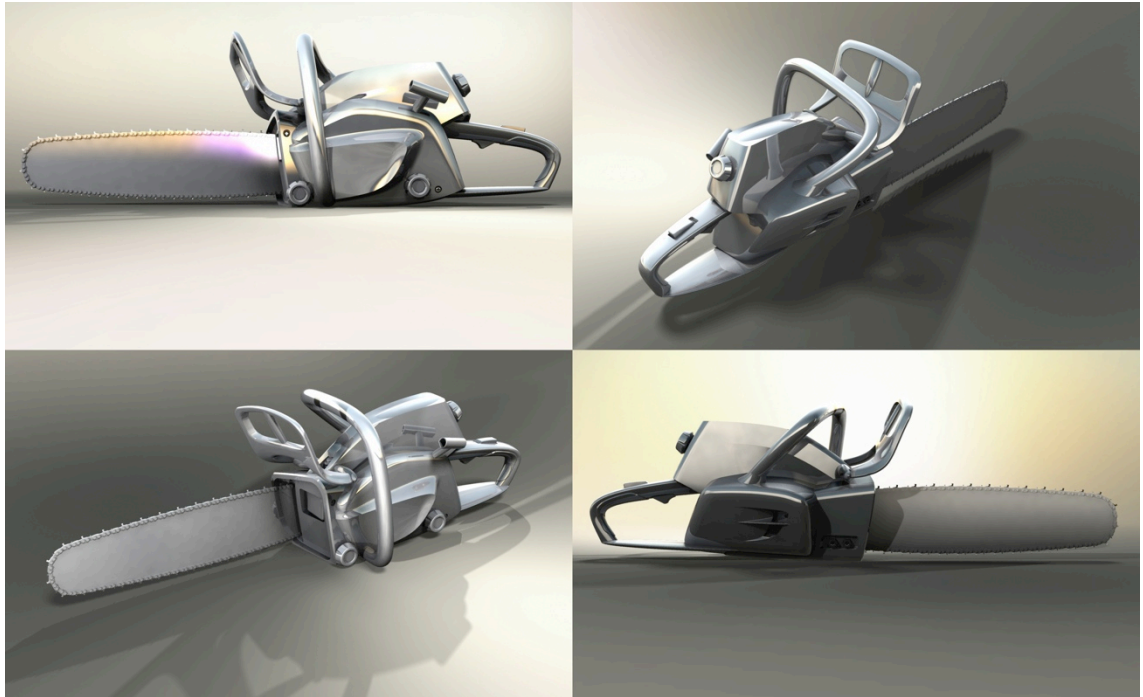
Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 12 Chain Saw BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S4



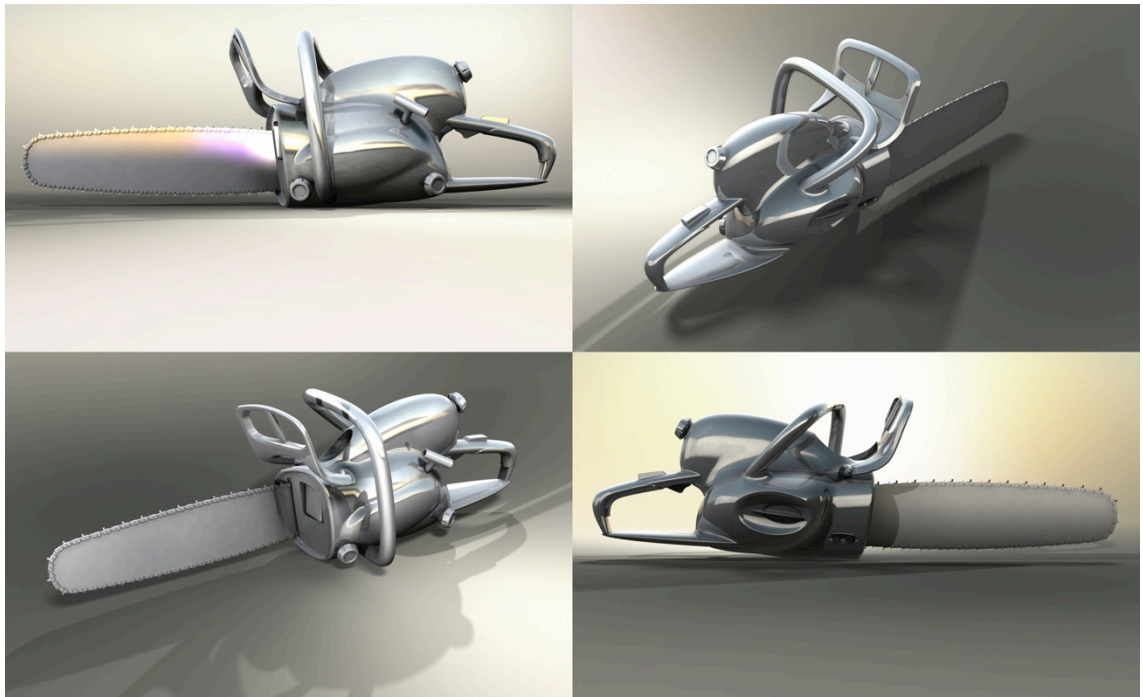
Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 13 Chain Saw BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S1



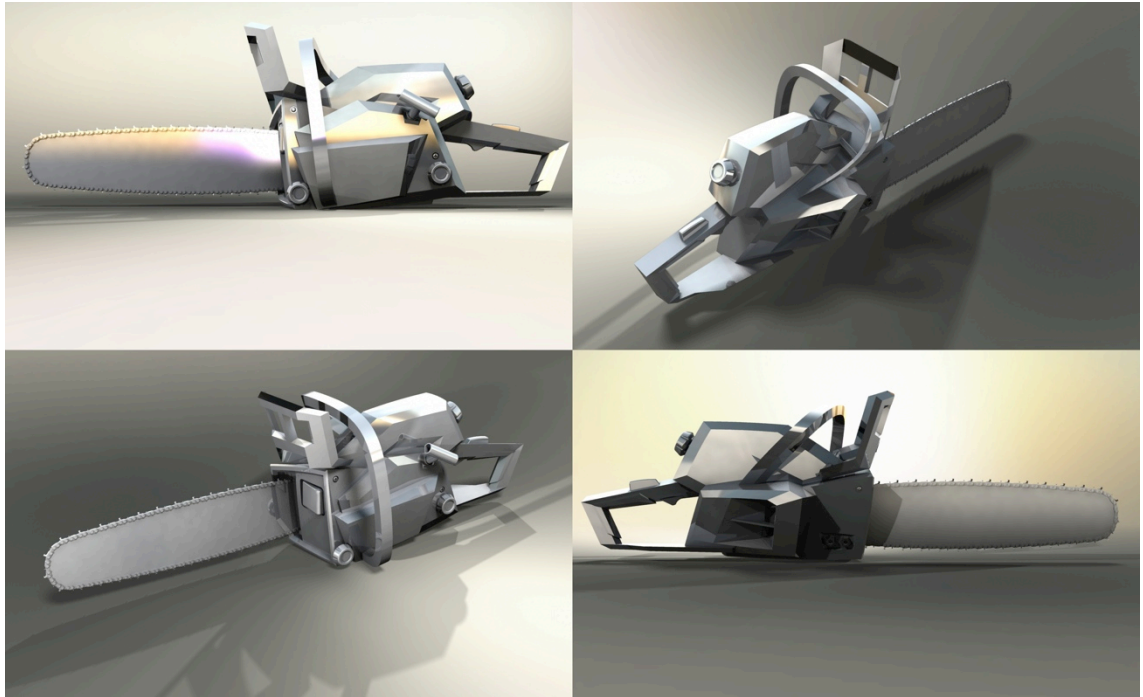
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 14 Chain Saw BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S2



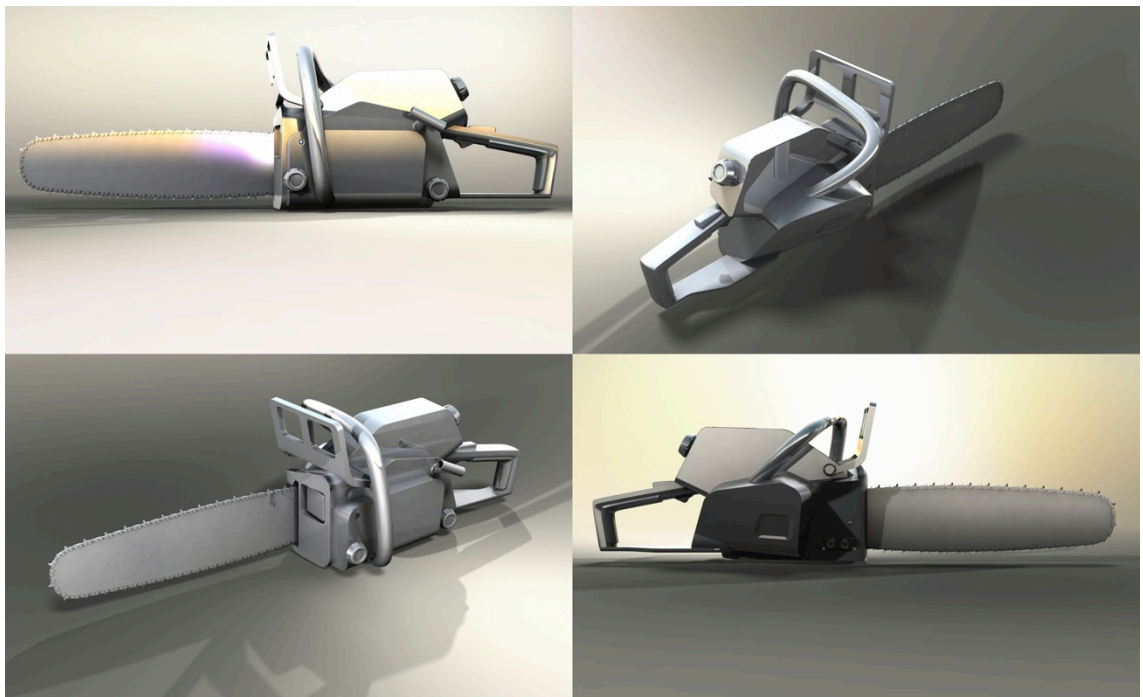
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 15 Chain Saw BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S3



Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 16 Chain Saw BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S4



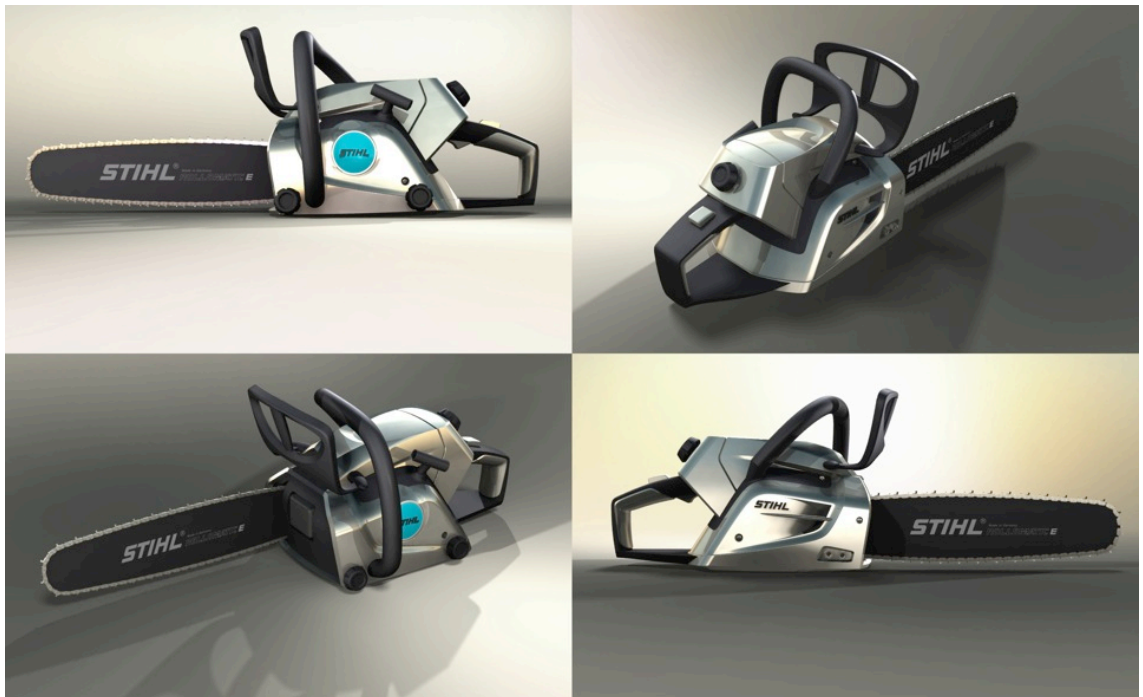
Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 17 DDL3_BFD_S1 referring to DDL1_BFD_S1 and DDL2_BFD_S1



Application of BFD Item 8: MSDGE

Appendix Image 18 DDL3_BFD_S2 referring to DDL1_BFD_S1 and DDL2_BFD_S1

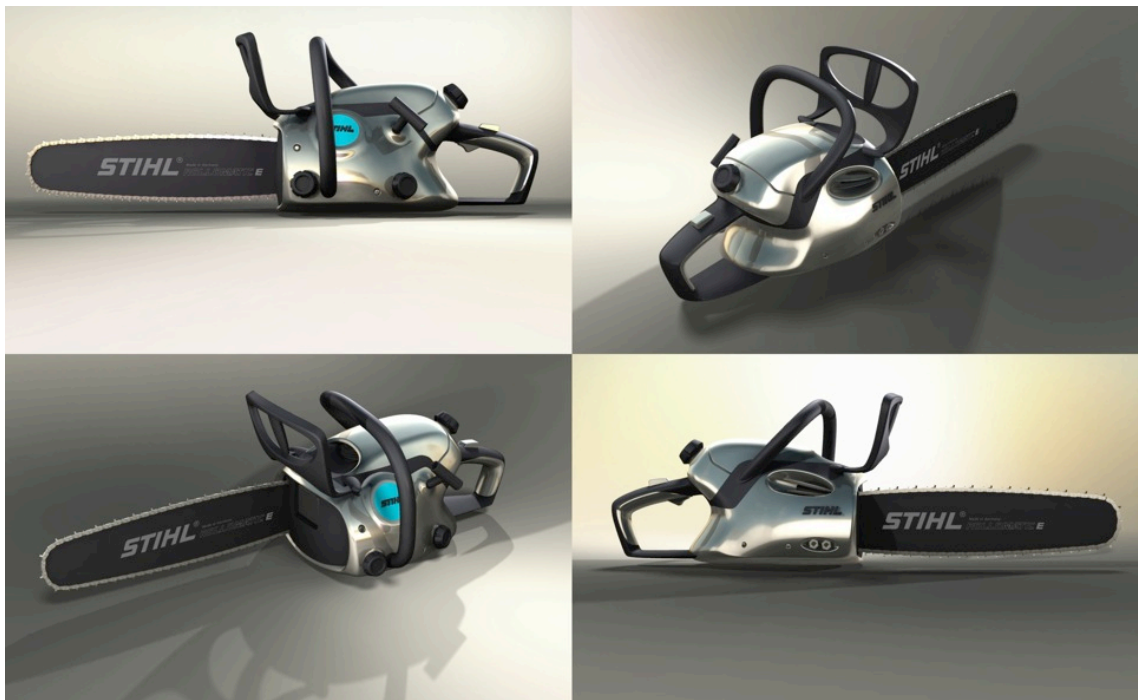


Appendix Image 19 DDL3_BFD_S1 referring to DDL1_BFD_S1 and DDL2_BFD_S2



Application of BFD Item 8: MSDGE

Appendix Image 20 DDL3_BFD_S2 referring to DDL1_BFD_S1 and DDL2_BFD_S2

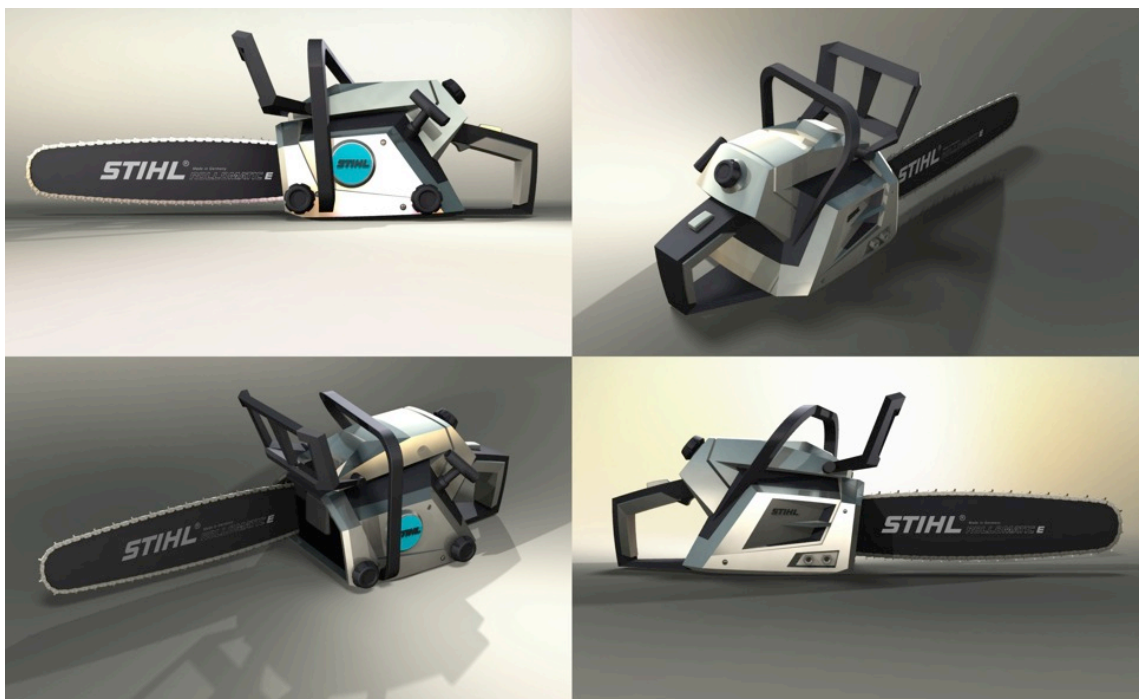


Appendix Image 21 DDL3_BFD_S1 referring to DDL1_BFD_S1 and DDL2_BFD_S3

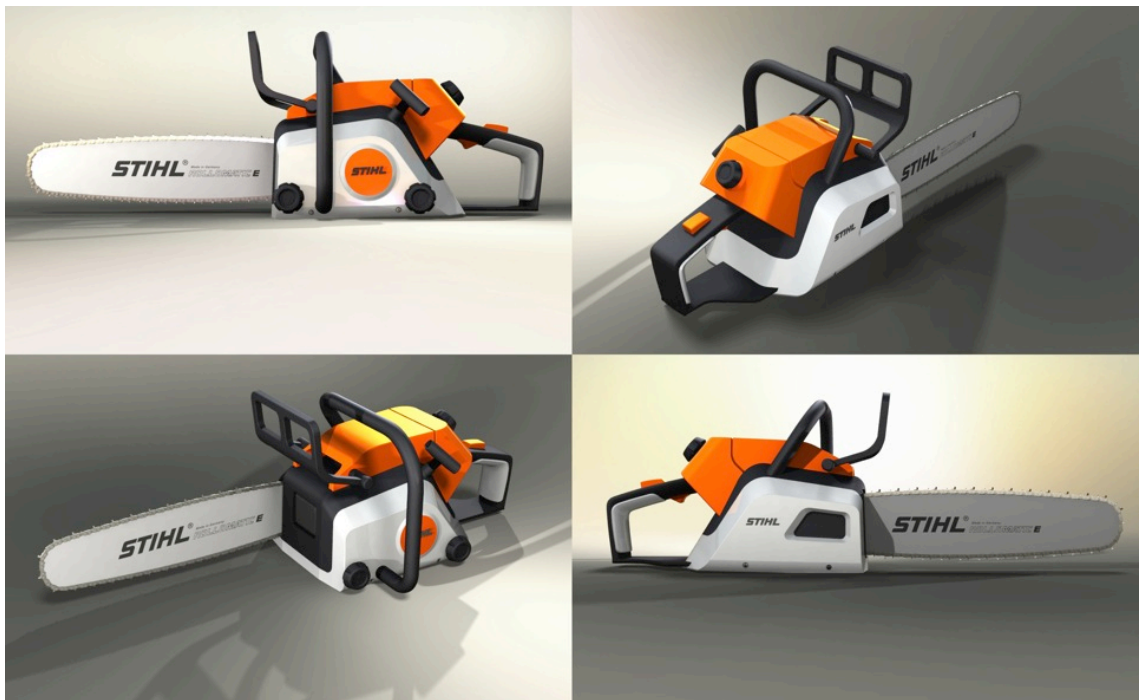


Application of BFD Item 8: MSDGE

Appendix Image 22 DDL3_BFD_S2 referring to DDL1_BFD_S1 and DDL2_BFD_S3

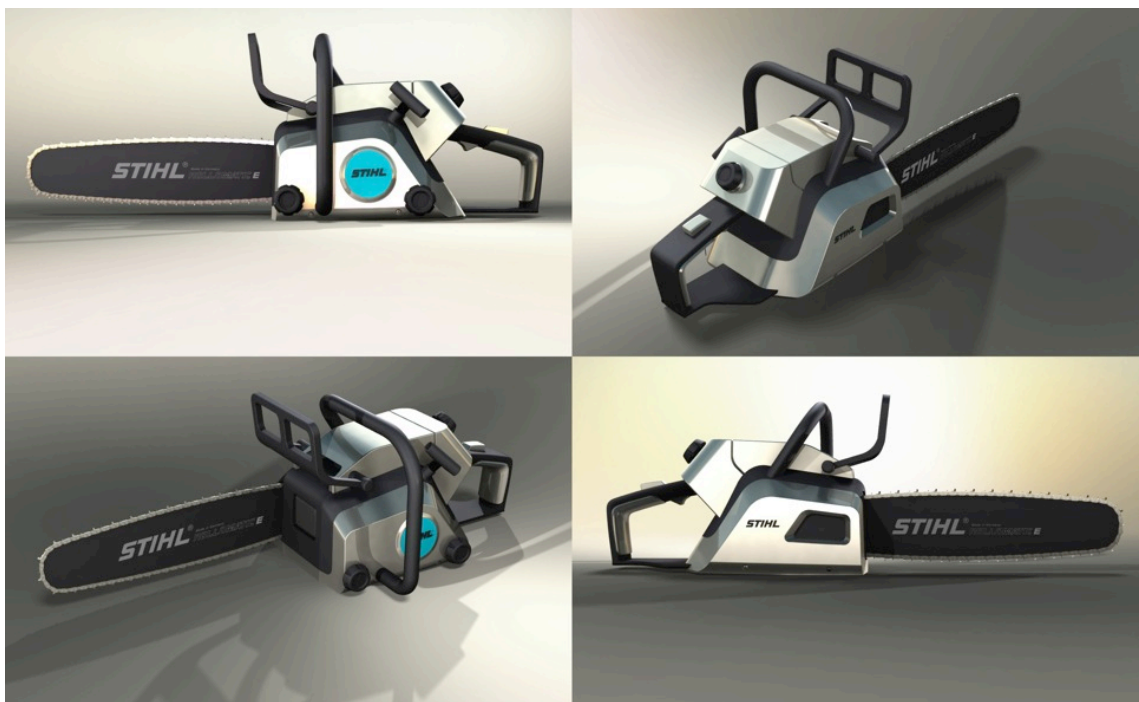


Appendix Image 23 DDL3_BFD_S1 referring to DDL1_BFD_S1 and DDL2_BFD_S4



Application of BFD Item 8: MSDGE

Appendix Image 24 DDL3_BFD_S2 referring to DDL1_BFD_S1 and DDL2_BFD_S4

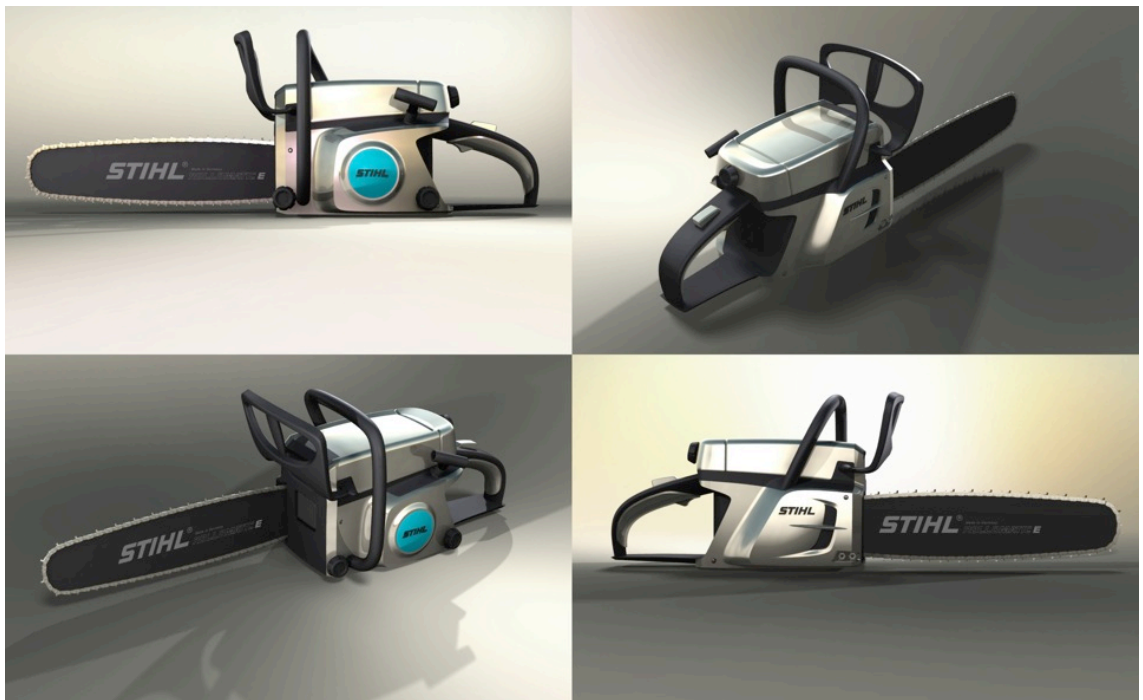


Appendix Image 25 DDL3_BFD_S1 referring to DDL1_BFD_S2 and DDL2_BFD_S1



Application of BFD Item 8: MSDGE

Appendix Image 26 DDL3_BFD_S2 referring to DDL1_BFD_S2 and DDL2_BFD_S1

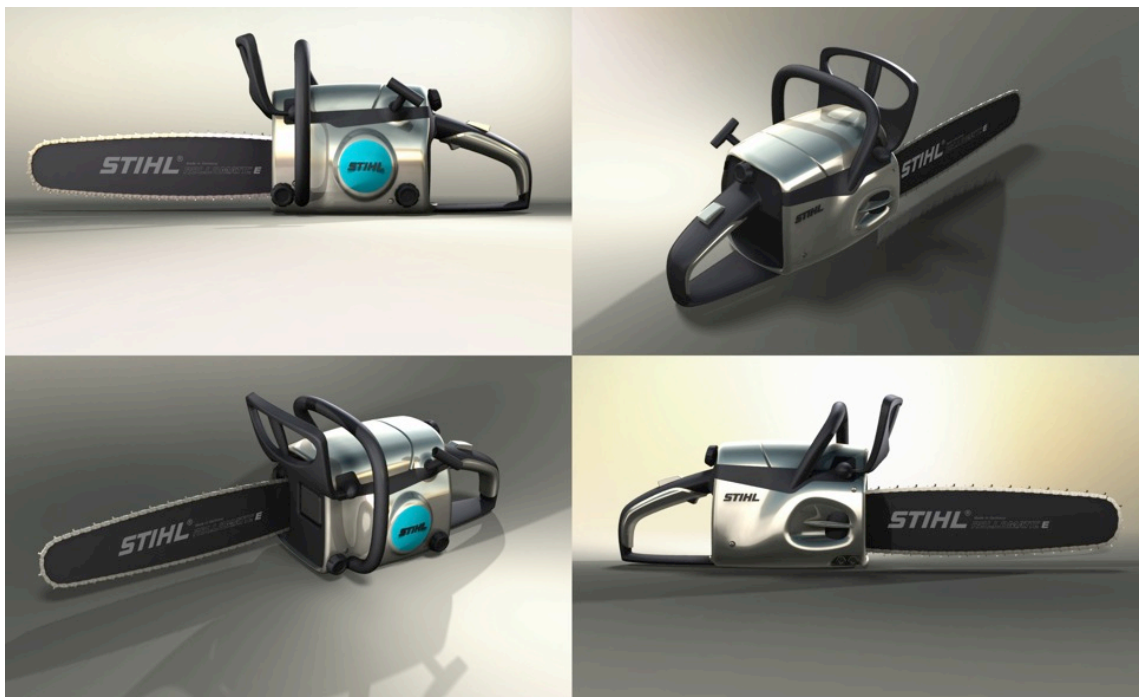


Appendix Image 27 DDL3_BFD_S1 referring to DDL1_BFD_S2 and DDL2_BFD_S2

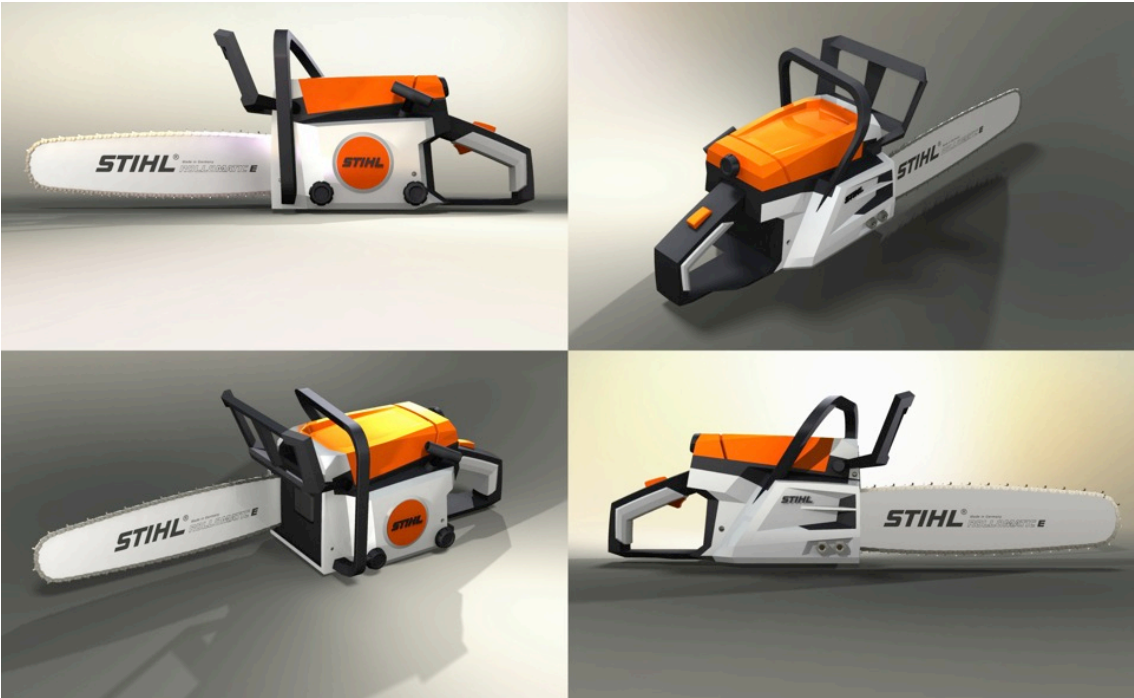


Application of BFD Item 8: MSDGE

Appendix Image 28 DDL3_BFD_S2 referring to DDL1_BFD_S2 and DDL2_BFD_S2

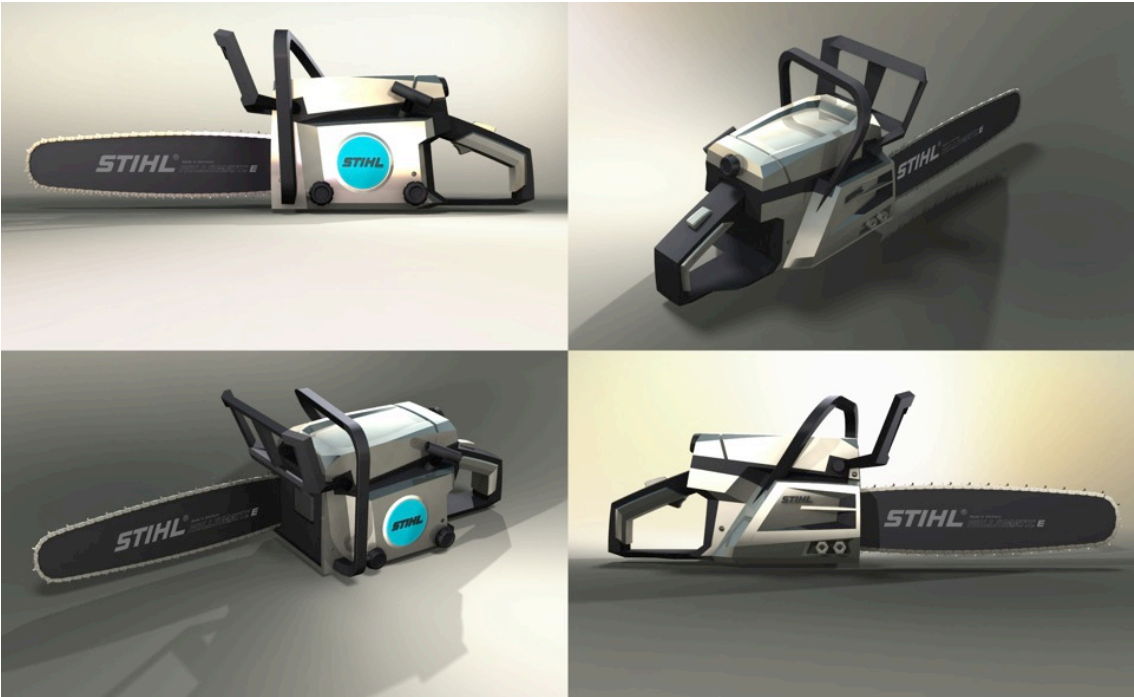


Appendix Image 29 DDL3_BFD_S1 referring to DDL1_BFD_S2 and DDL2_BFD_S3



Application of BFD Item 8: MSDGE

Appendix Image 30 DDL3_BFD_S2 referring to DDL1_BFD_S2 and DDL2_BFD_S3

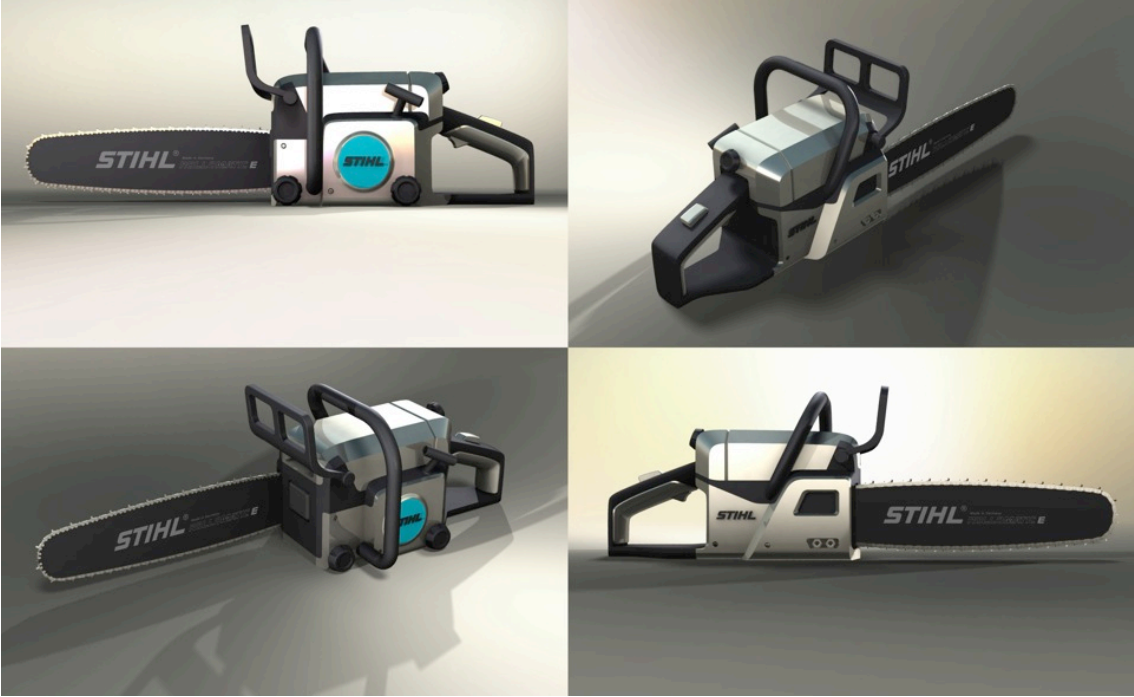


Appendix Image 31 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S4

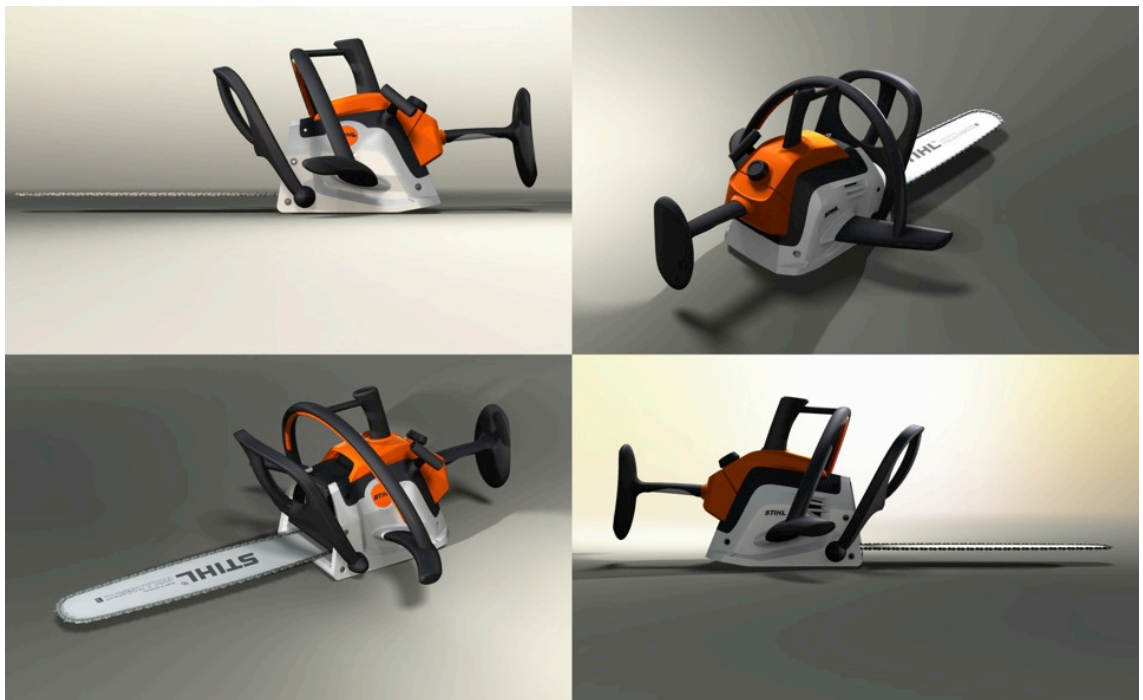


Application of BFD Item 8: MSDGE

Appendix Image 32 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S4

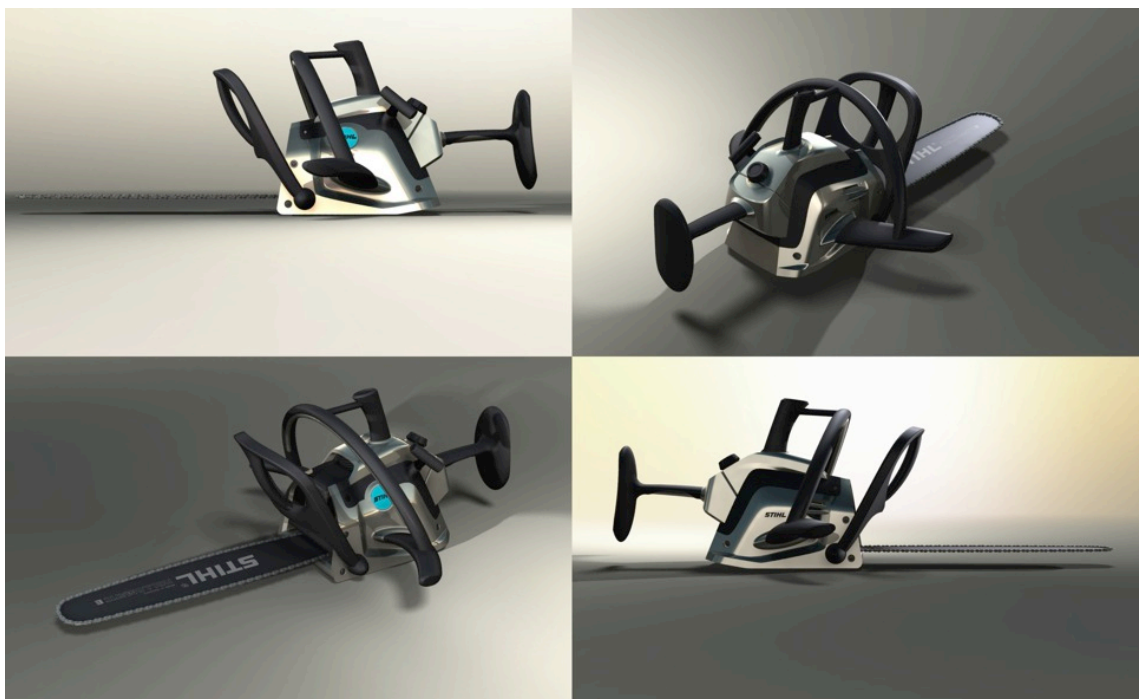


Appendix Image 33 DDL3_BFD_S1 referring to DDL1_BFD_S3 and DDL2_BFD_S1

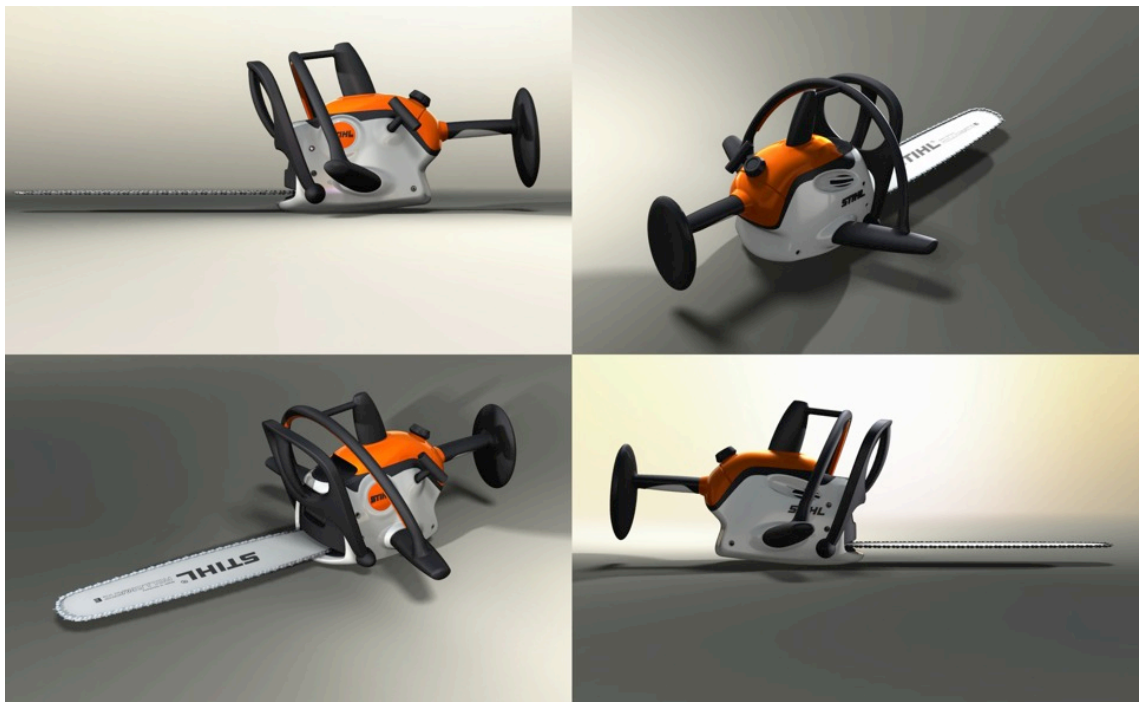


Application of BFD Item 8: MSDGE

Appendix Image 34 DDL3_BFD_S2 referring to DDL1_BFD_S3 and DDL2_BFD_S1

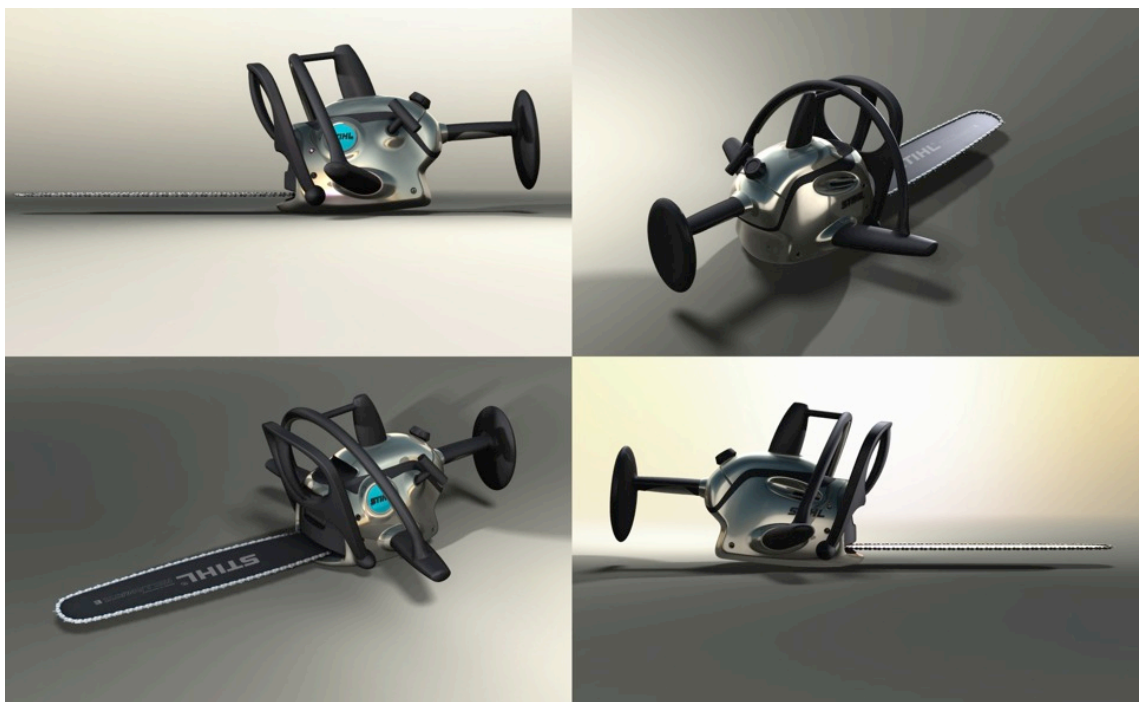


Appendix Image 35 DDL3_BFD_S1 referring to DDL1_BFD_S3 and DDL2_BFD_S2

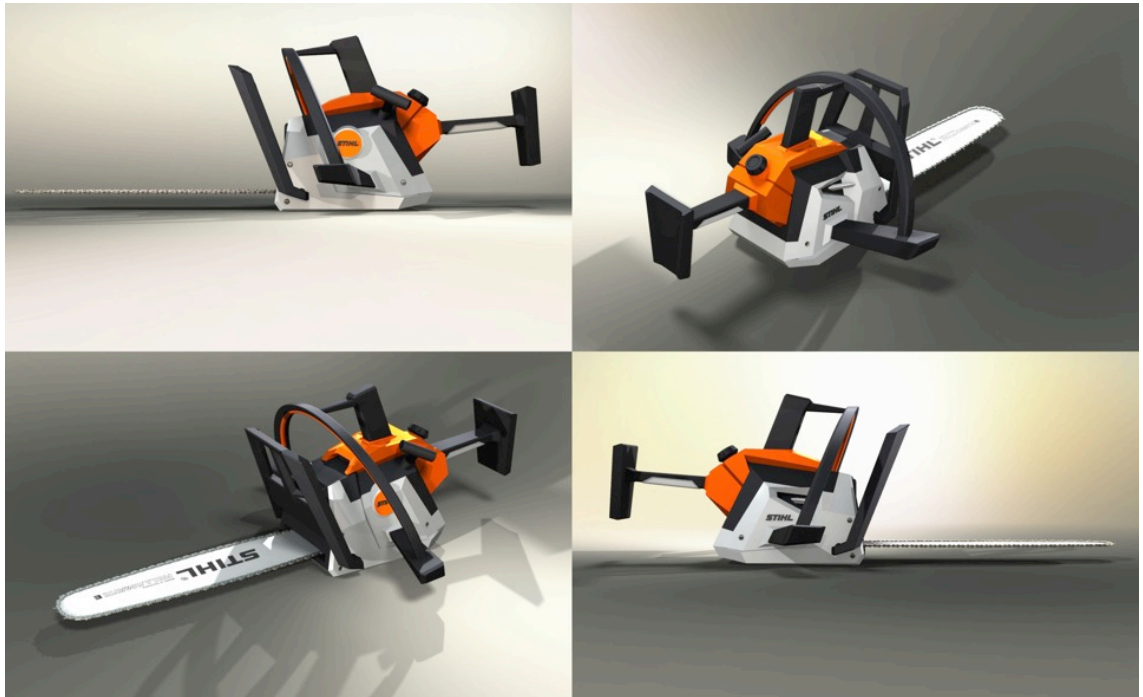


Application of BFD Item 8: MSDGE

Appendix Image 36 DDL3_BFD_S2 referring to DDL1_BFD_S3 and DDL2_BFD_S2

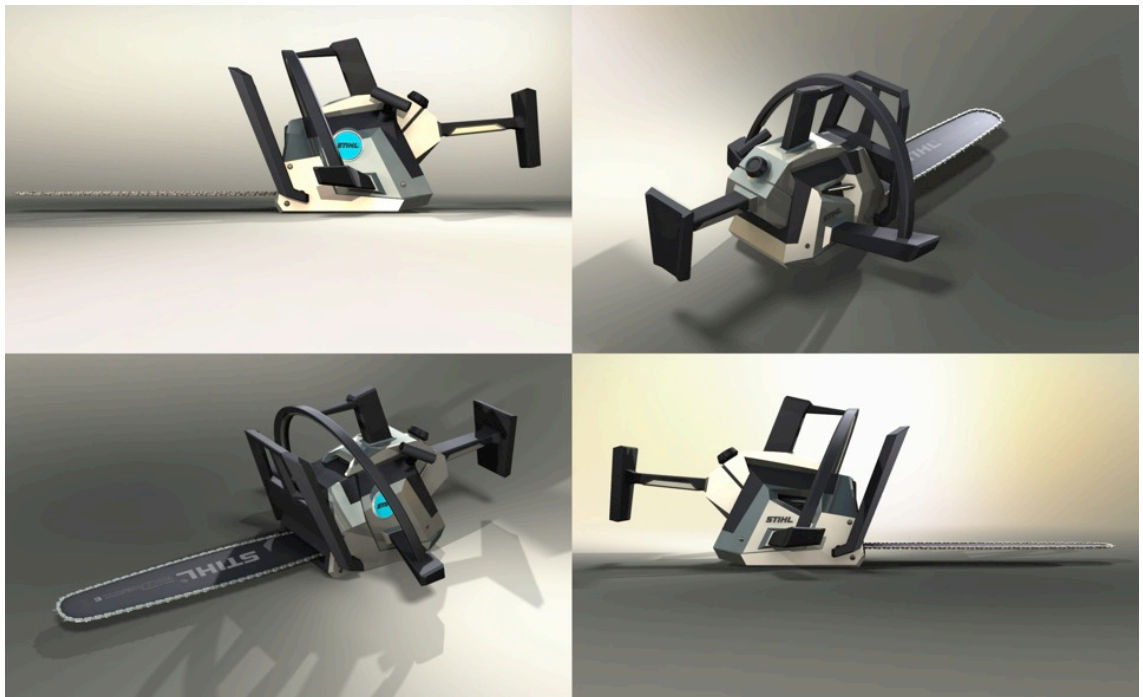


Appendix Image 37 DDL3_BFD_S1 referring to DDL1_BFD_S3 and DDL2_BFD_S3

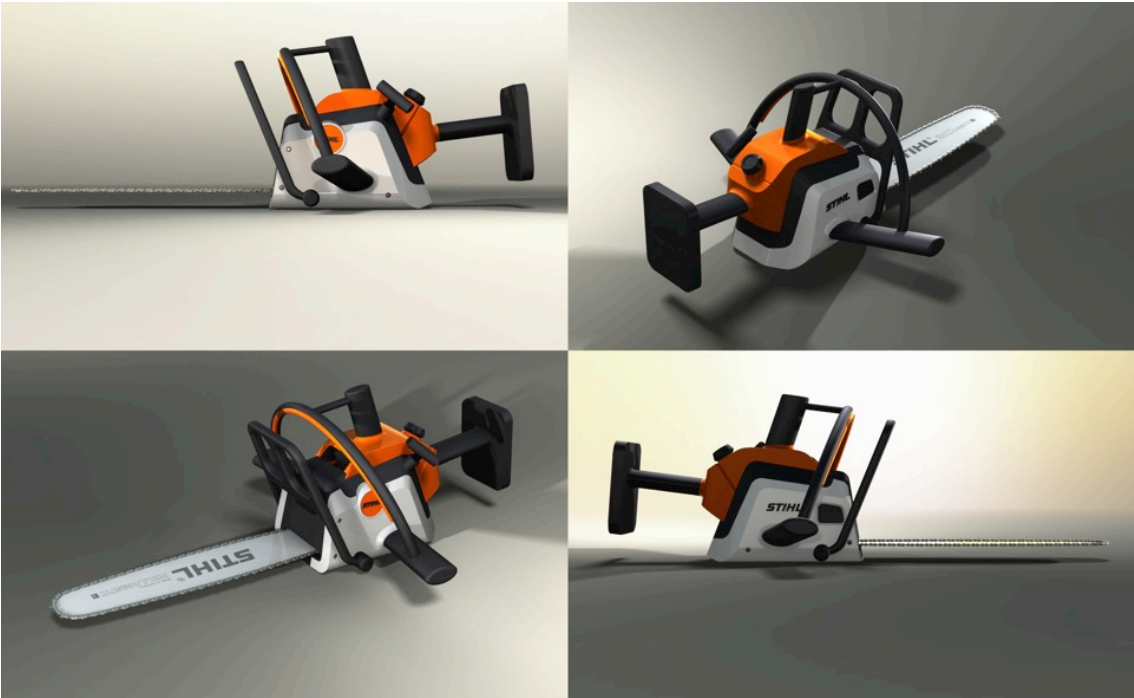


Application of BFD Item 8: MSDGE

Appendix Image 38 DDL3_BFD_S2 referring to DDL1_BFD_S3 and DDL2_BFD_S3

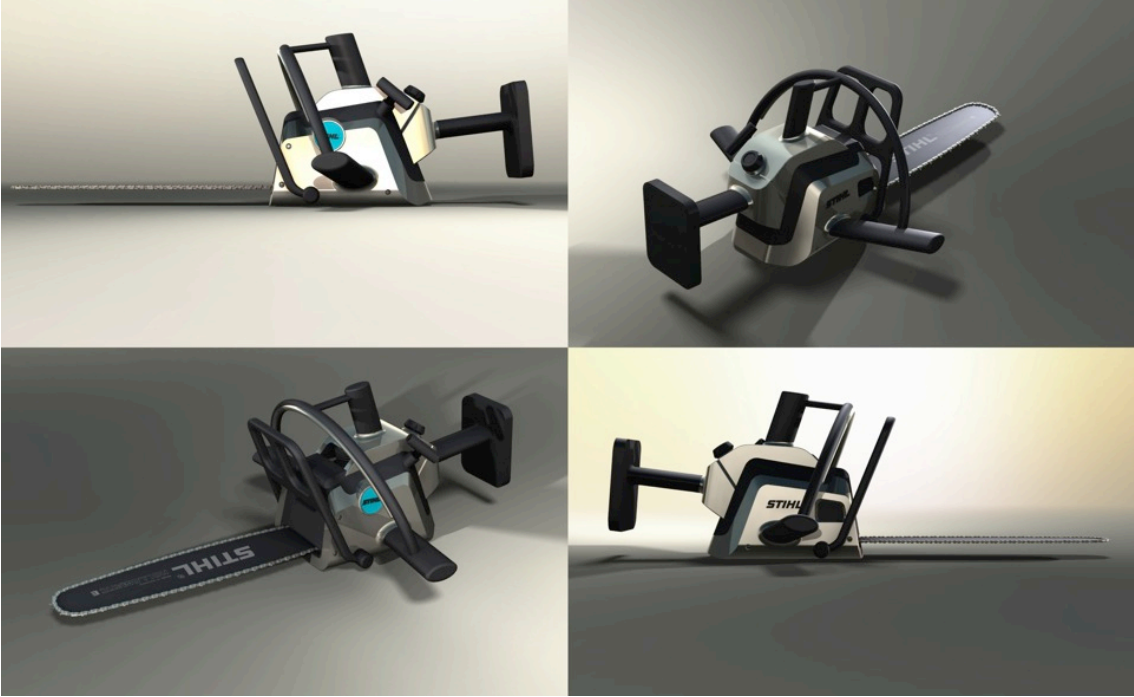


Appendix Image 39 DDL3_BFD_S1 referring to DDL1_BFD_S3 and DDL2_BFD_S4



Application of BFD Item 8: MSDGE

Appendix Image 40 DDL3_BFD_S2 referring to DDL1_BFD_S3 and DDL2_BFD_S4

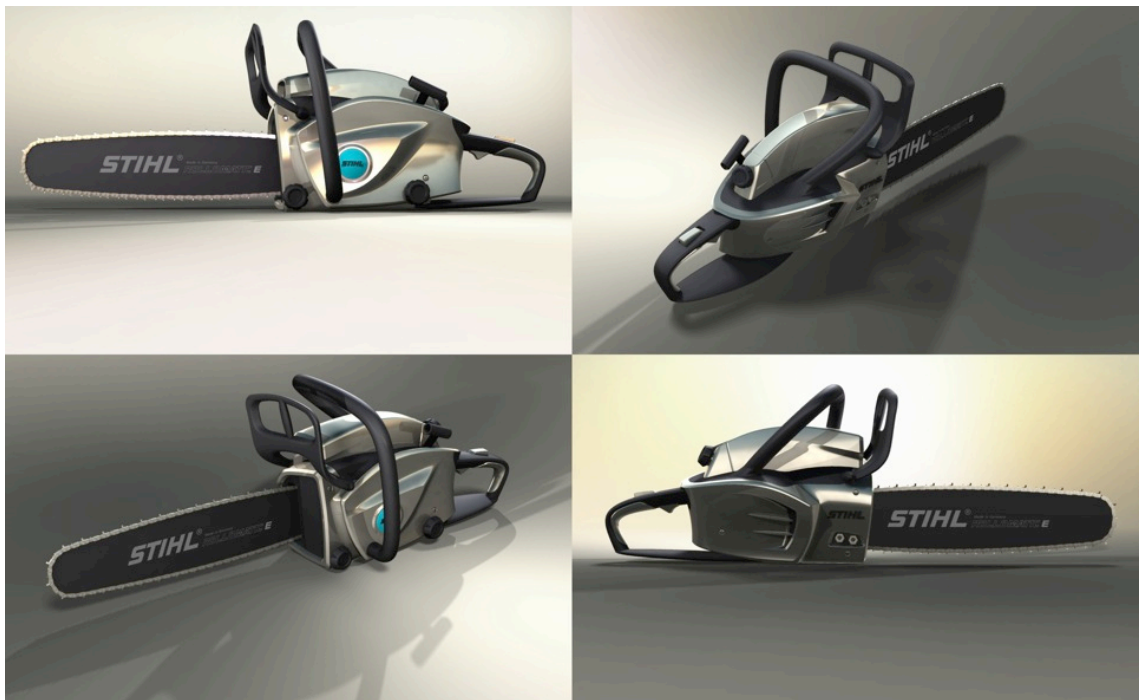


Appendix Image 41 DDL3_BFD_S1 referring to DDL1_BFD_S4 and DDL2_BFD_S1



Application of BFD Item 8: MSDGE

Appendix Image 42 DDL3_BFD_S2 referring to DDL1_BFD_S4 and DDL2_BFD_S1

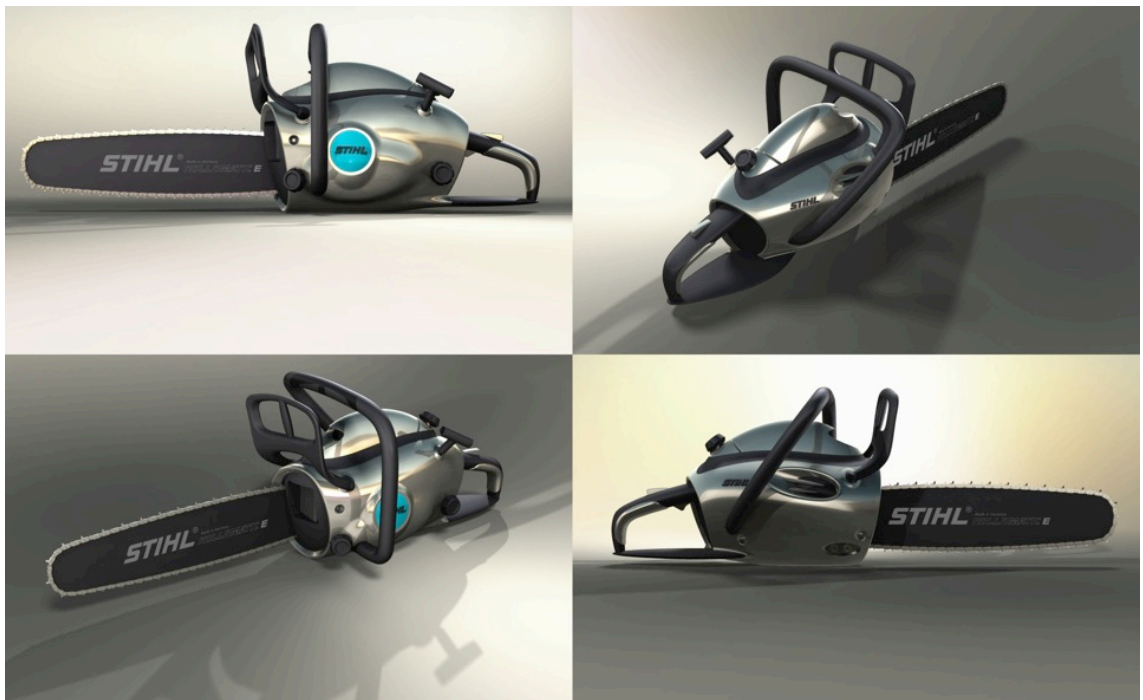


Appendix Image 43 DDL3_BFD_S1 referring to DDL1_BFD_S4 and DDL2_BFD_S2

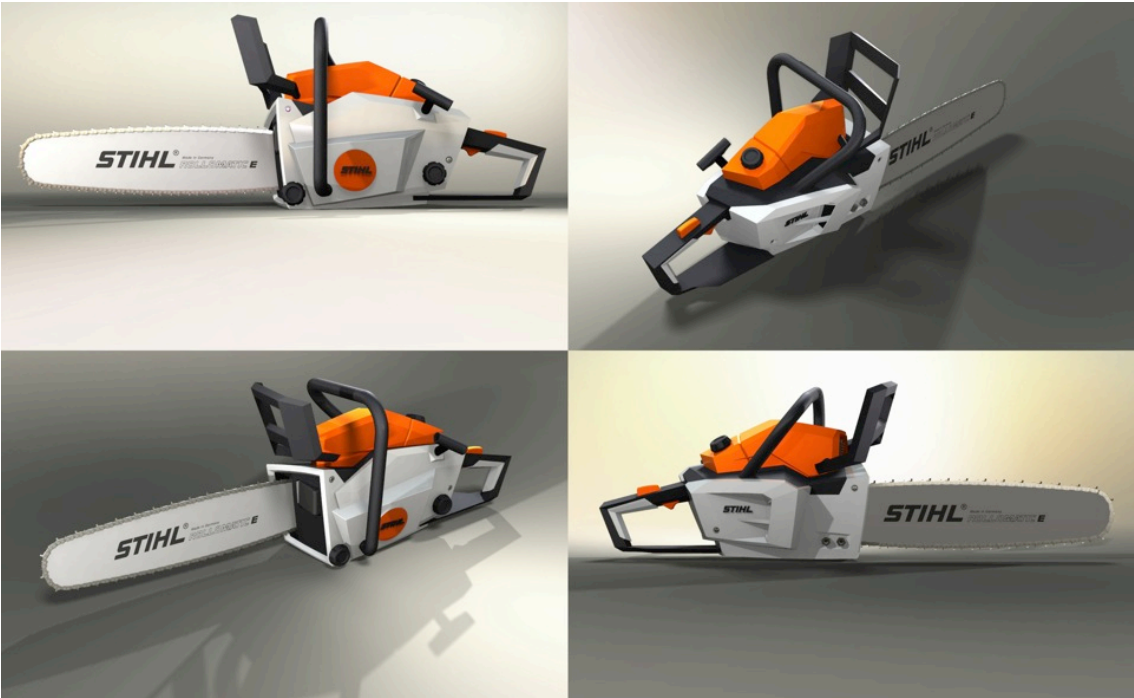


Application of BFD Item 8: MSDGE

Appendix Image 44 DDL3_BFD_S2 referring to DDL1_BFD_S4 and DDL2_BFD_S2

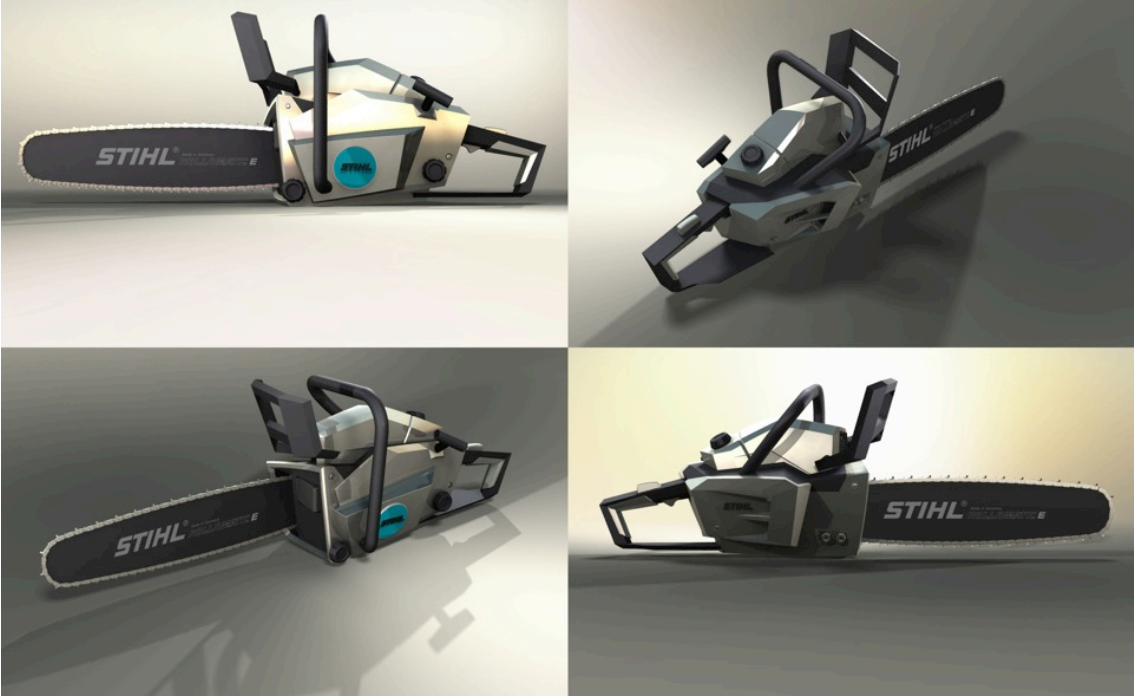


Appendix Image 45 DDL3_BFD_S1 referring to DDL1_BFD_S4 and DDL2_BFD_S3

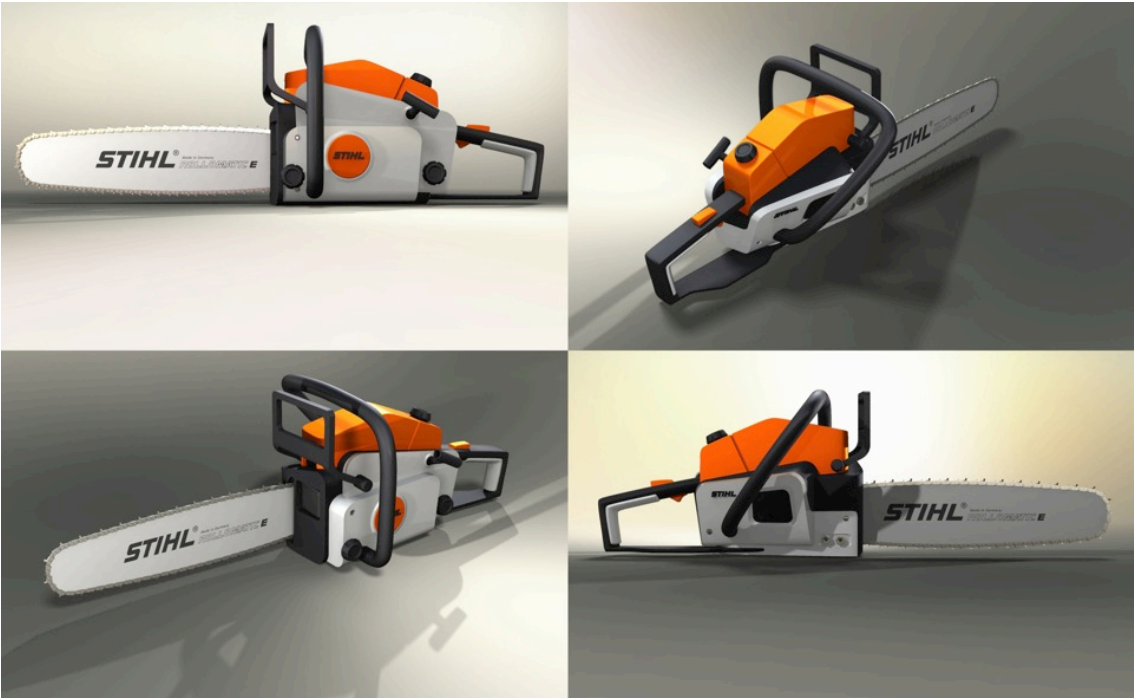


Application of BFD Item 8: MSDGE

Appendix Image 46 DDL3_BFD_S2 referring to DDL1_BFD_S4 and DDL2_BFD_S3

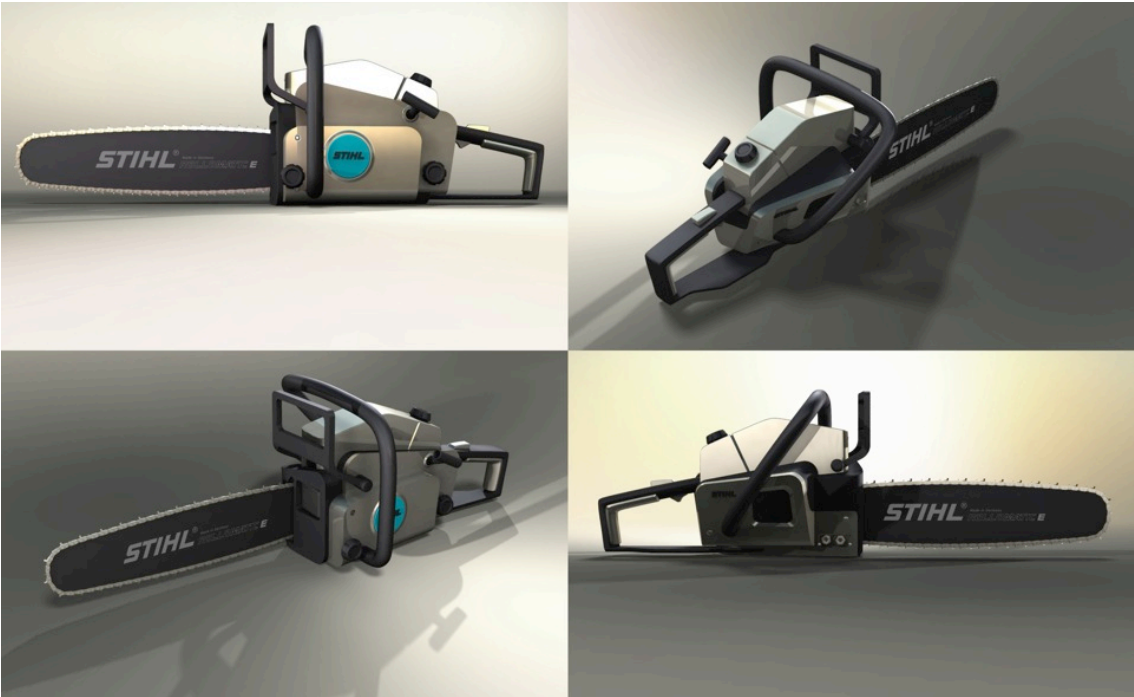


Appendix Image 47 DDL3_BFD_S1 referring to DDL1_BFD_S4 and DDL2_BFD_S4



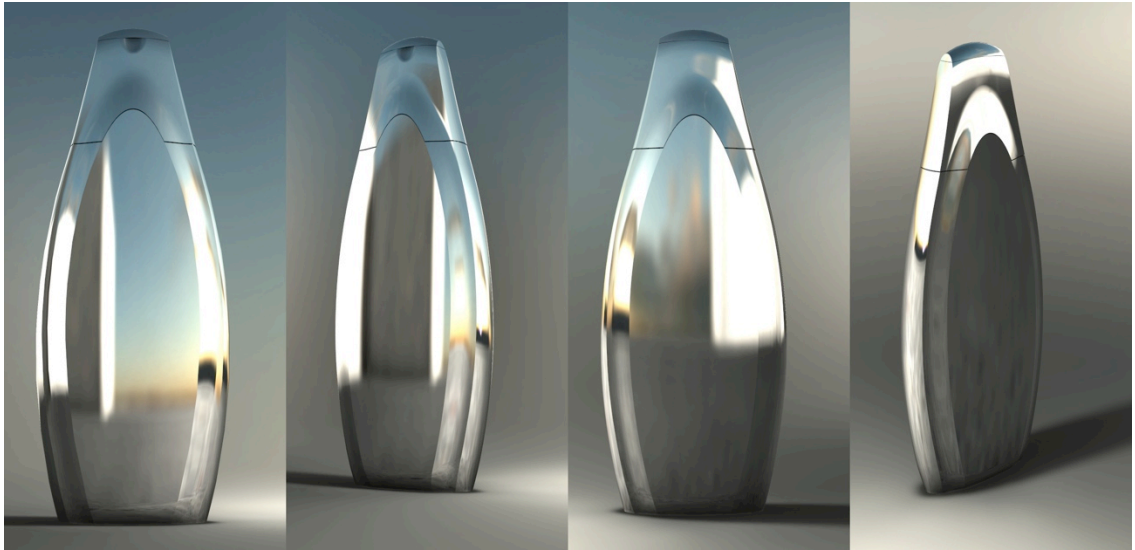
Application of BFD Item 8: MSDGE

Appendix Image 48 DDL3_BFD_S2 referring to DDL1_BFD_S4 and DDL2_BFD_S4



8.2 BFD STIMULI: SCHAUMA SHAMPOO BOTTLES

Appendix Image 49 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S1



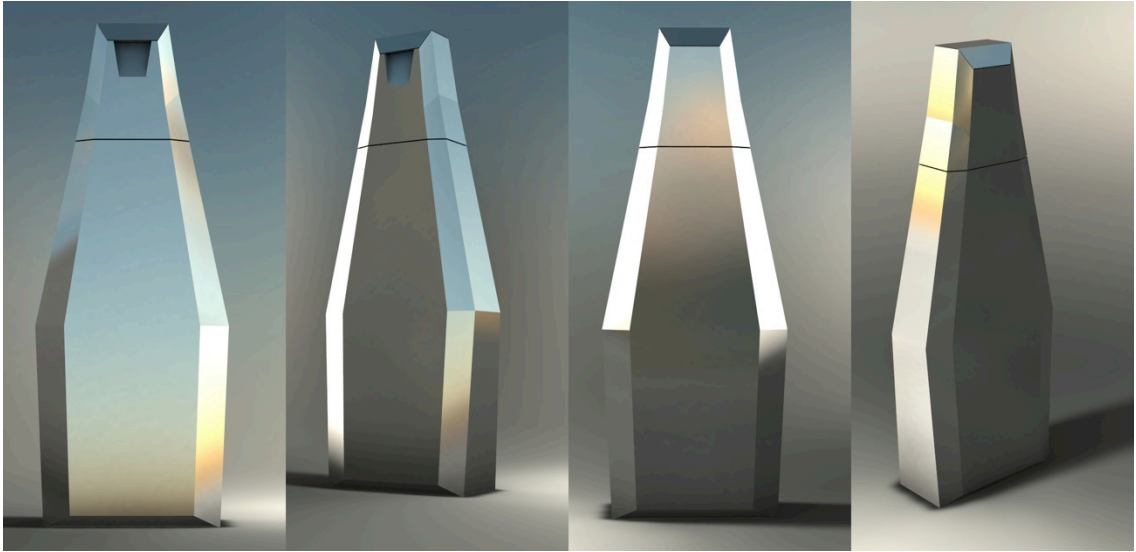
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 50 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S2



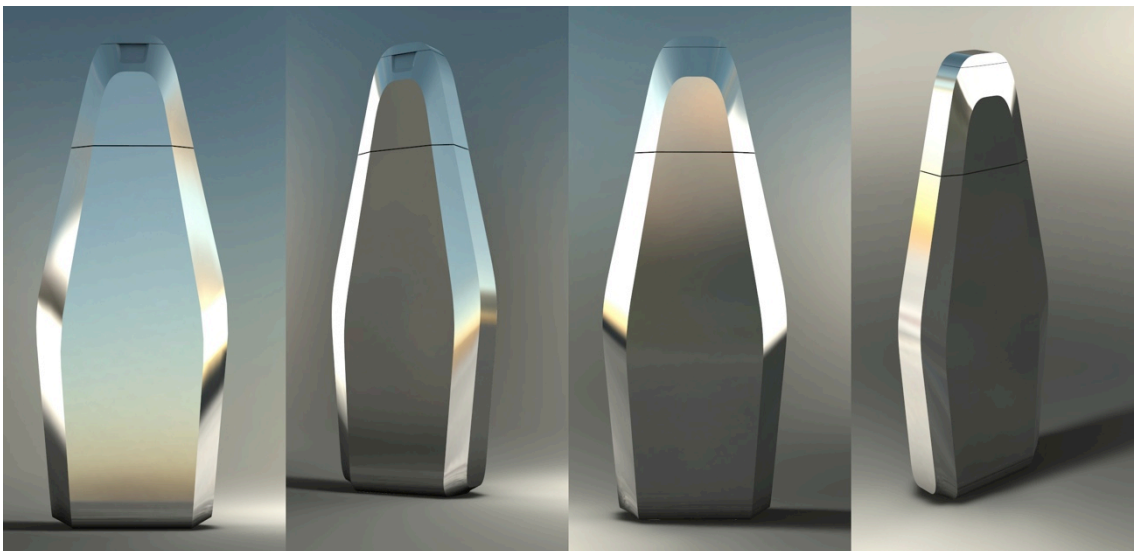
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 51 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S3



Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 52 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S4



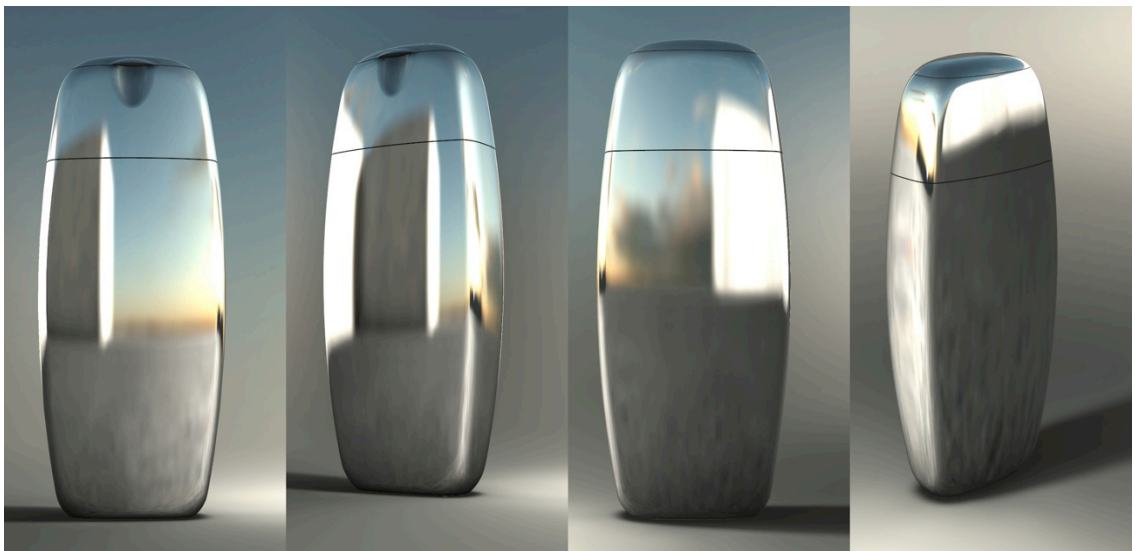
Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 53 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S1



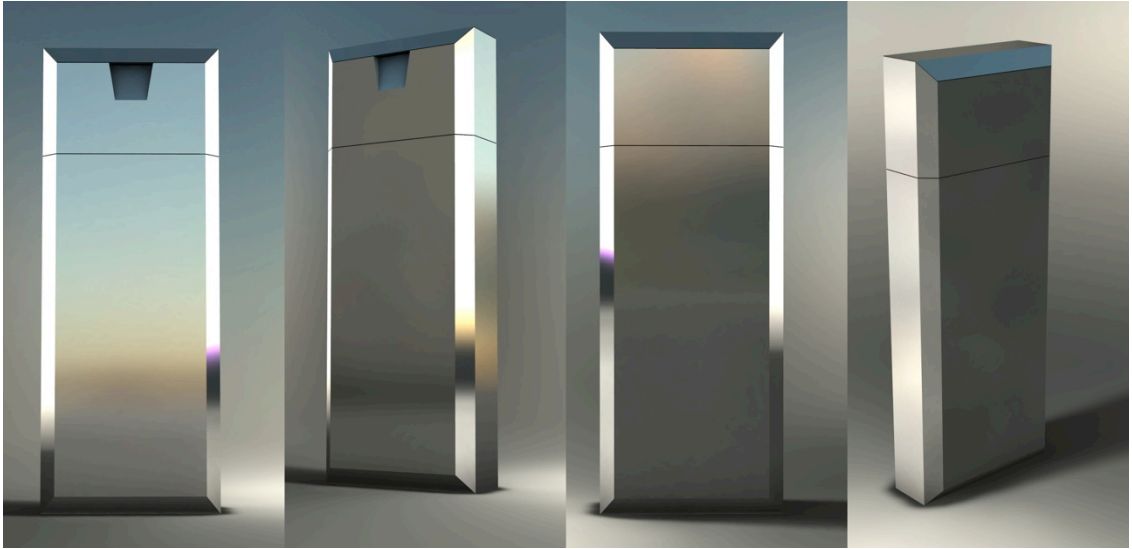
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 54 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S2



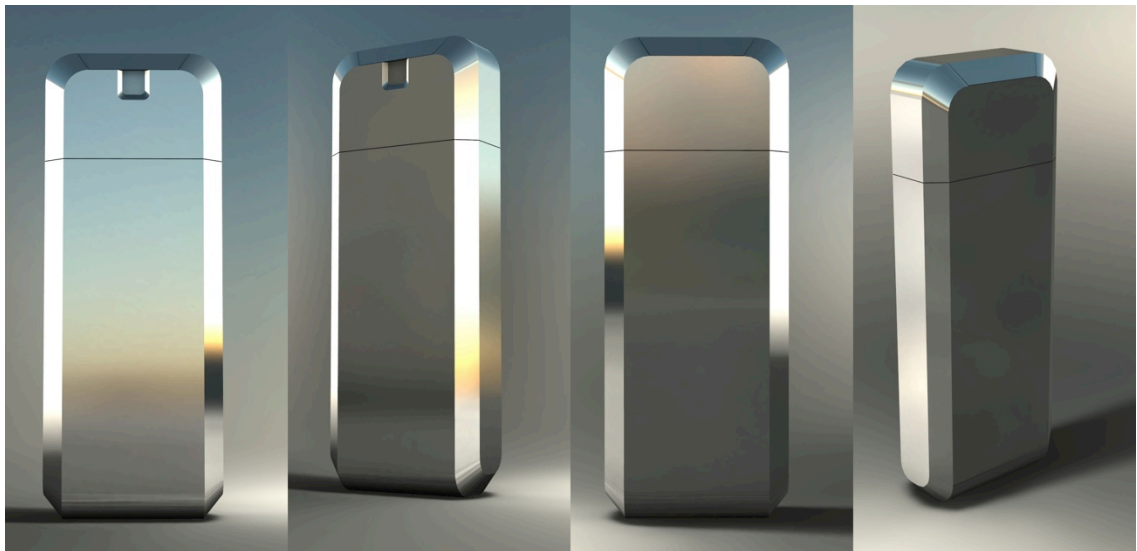
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 55 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S3



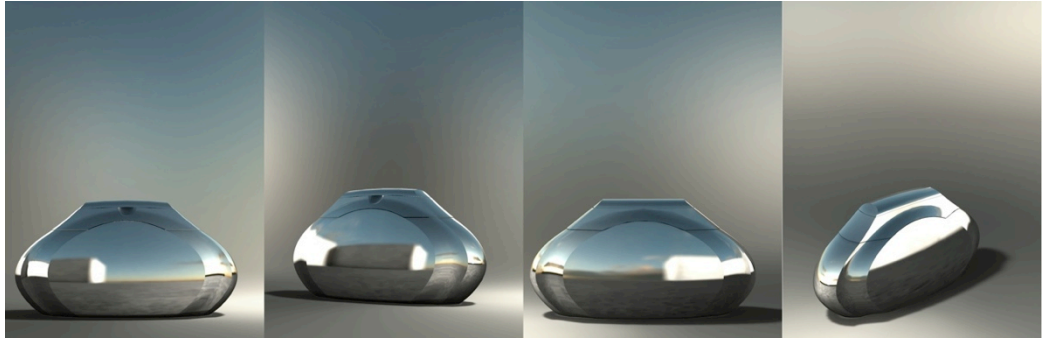
Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 56 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S4



Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 57 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S1



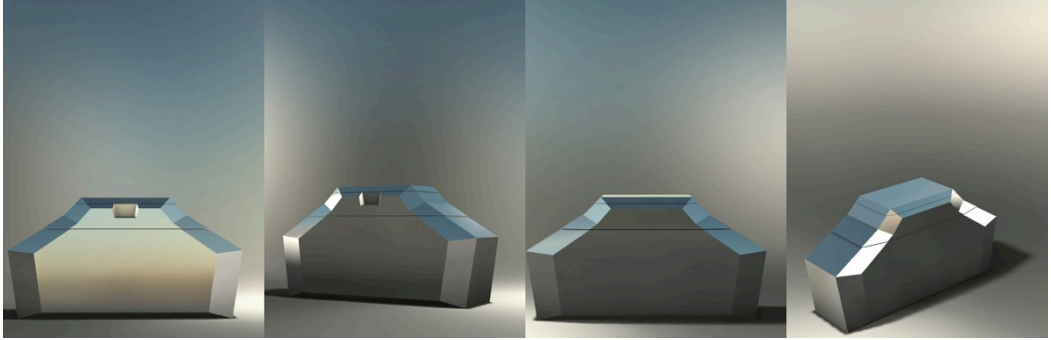
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 58 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S2



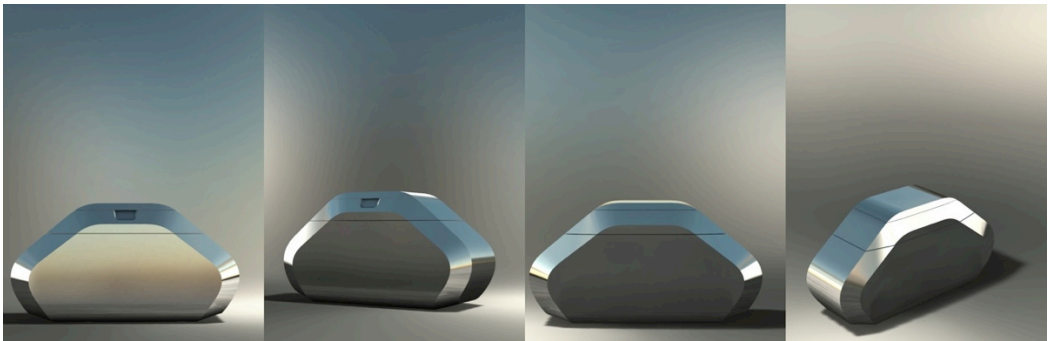
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 59 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S3



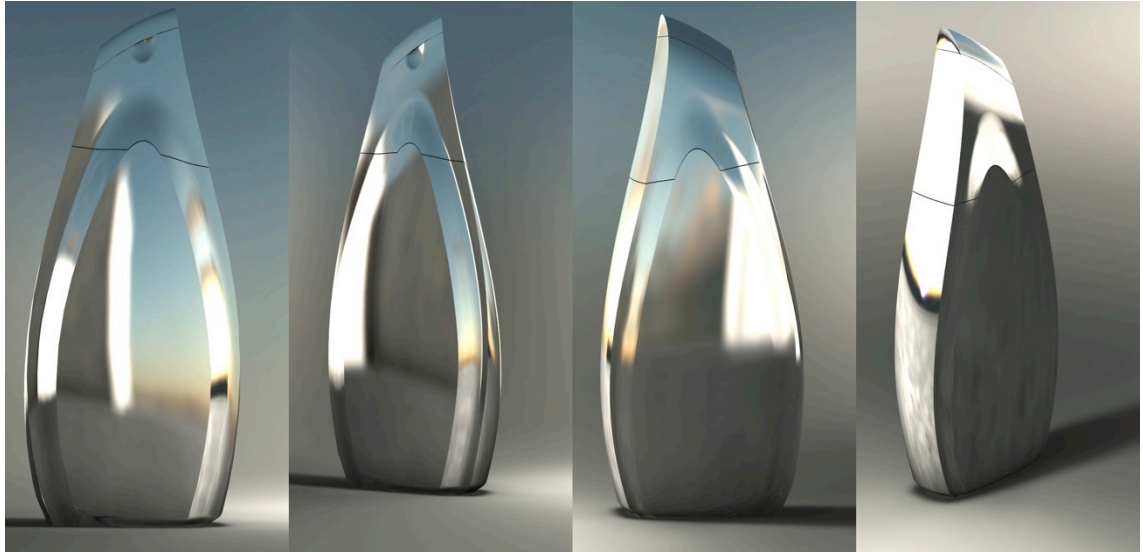
Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 60 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S4



Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges

Appendix Image 61 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S1



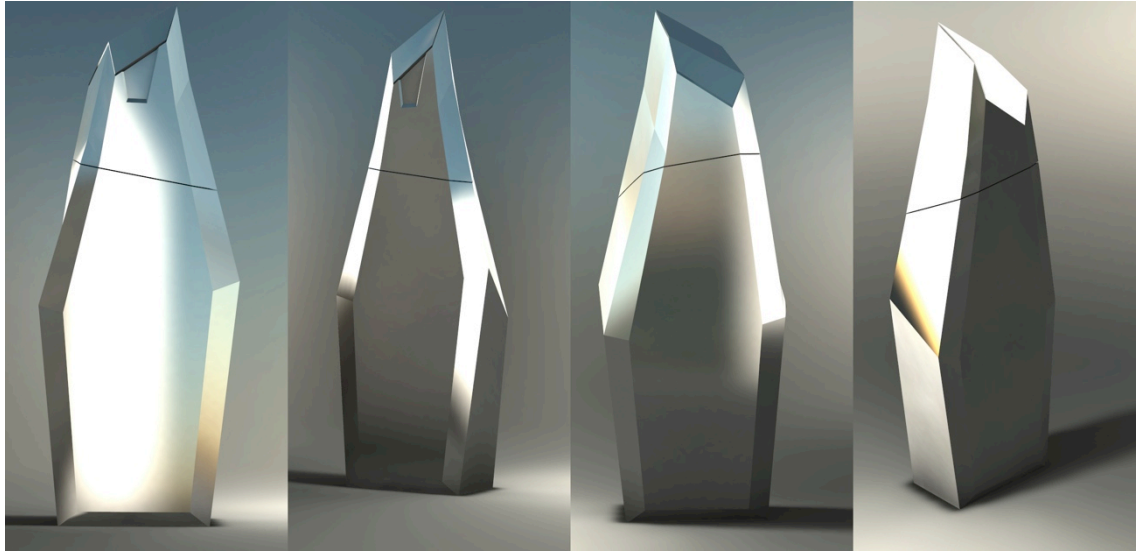
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 62 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S2



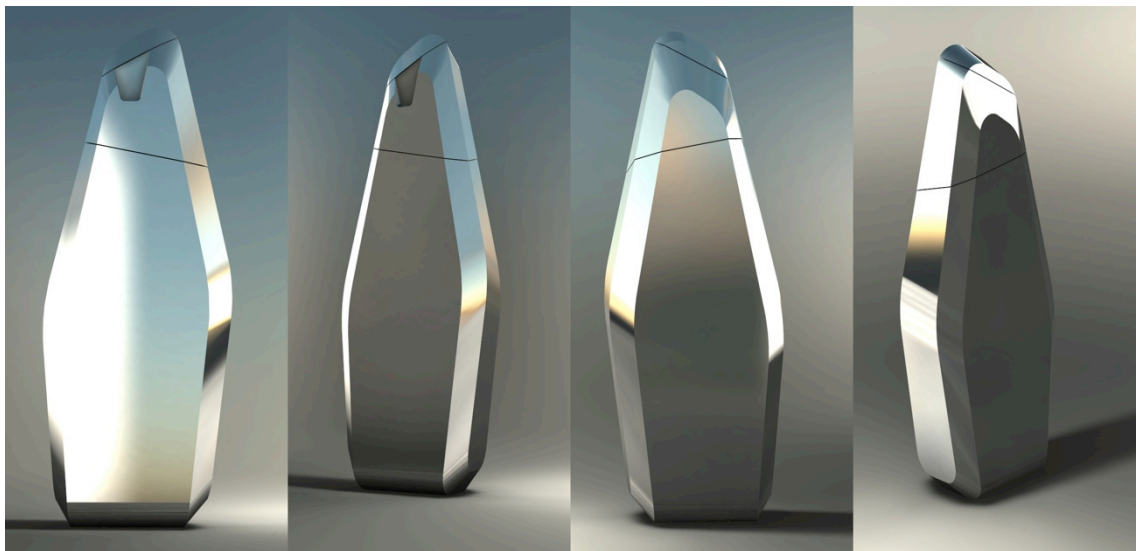
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 63 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S3



Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 64 SCHAUMA Shampoo Bottle BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S4



Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 65 DDL3_BFD_S1, S2 referring to DDL1_BFD_S1 and DDL2_BFD_S1



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 66 DDL3_BFD_S1, S2 referring to DDL1_BFD_S1 and DDL2_BFD_S2



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 67 DDL3_BFD_S1, S2 referring to DDL1_BFD_S1 and DDL2_BFD_S3



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 68 DDL3_BFD_S1, S2 referring to DDL1_BFD_S1 and DDL2_BFD_S4



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 69 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S1



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 70 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S2



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 71 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S3



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 72 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S4



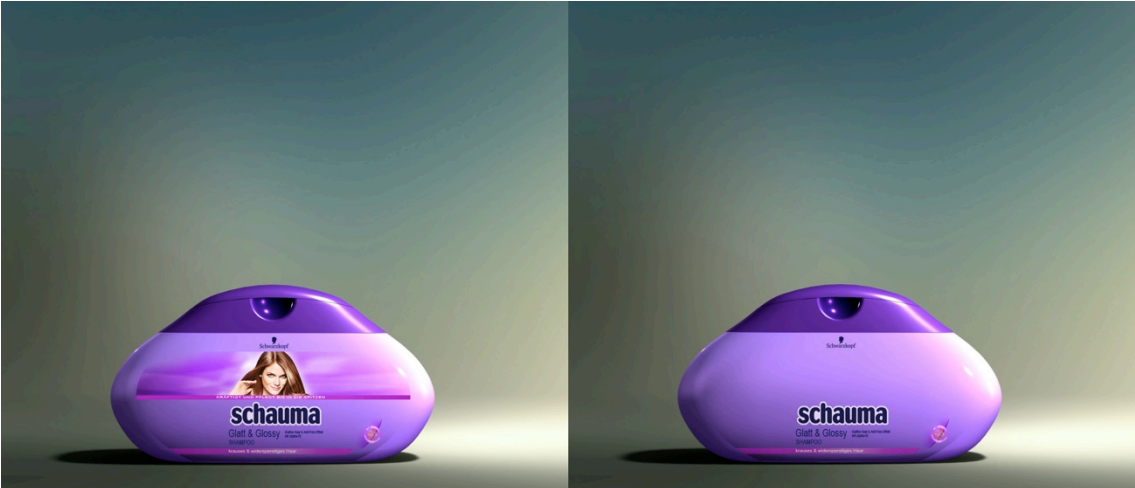
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 73 DDL3_BFD_S1, S2 referring to DDL1_BFD_S3 and DDL2_BFD_S1



Left Image: Application of BFD Item 8: MSDG

Appendix Image 74 DDL3_BFD_S1, S2 referring to DDL1_BFD_S3 and DDL2_BFD_S2



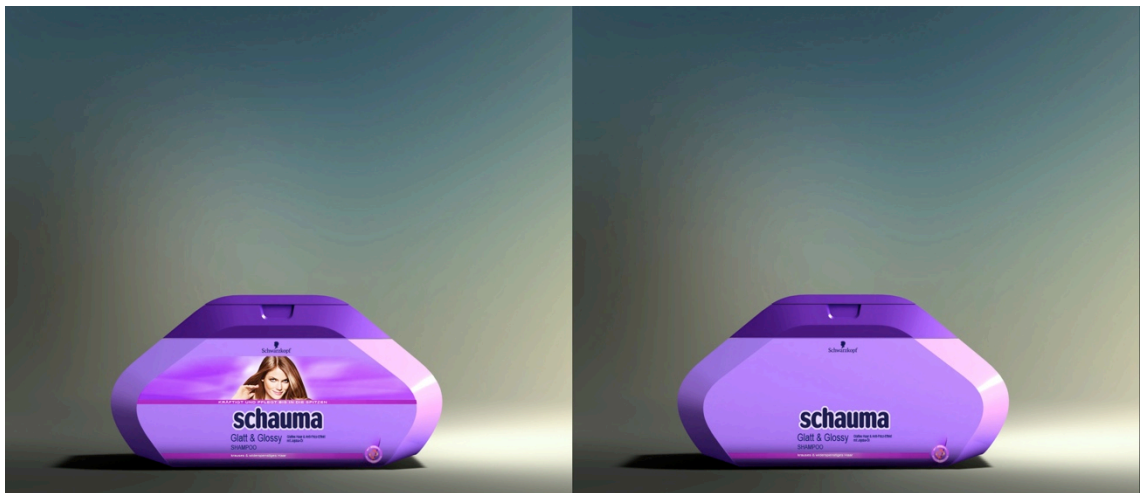
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 75 DDL3_BFD_S1, S2 referring to DDL1_BFD_S3 and DDL2_BFD_S3



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 76 DDL3_BFD_S1, S2 referring to DDL1_BFD_S3 and DDL2_BFD_S4



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 77 DDL3_BFD_S1, S2 referring to DDL1_BFD_S4 and DDL2_BFD_S1



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 78 DDL3_BFD_S1, S2 referring to DDL1_BFD_S4 and DDL2_BFD_S2



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 79 DDL3_BFD_S1, S2 referring to DDL1_BFD_S4 and DDL2_BFD_S3



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 80 DDL3_BFD_S1, S2 referring to DDL1_BFD_S4 and DDL2_BFD_S4



Left Image: Application of BFD Item 8: MSDGE

8.3 BFD STIMULI: WMF SAUCEPANS

Appendix Image 81 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S1



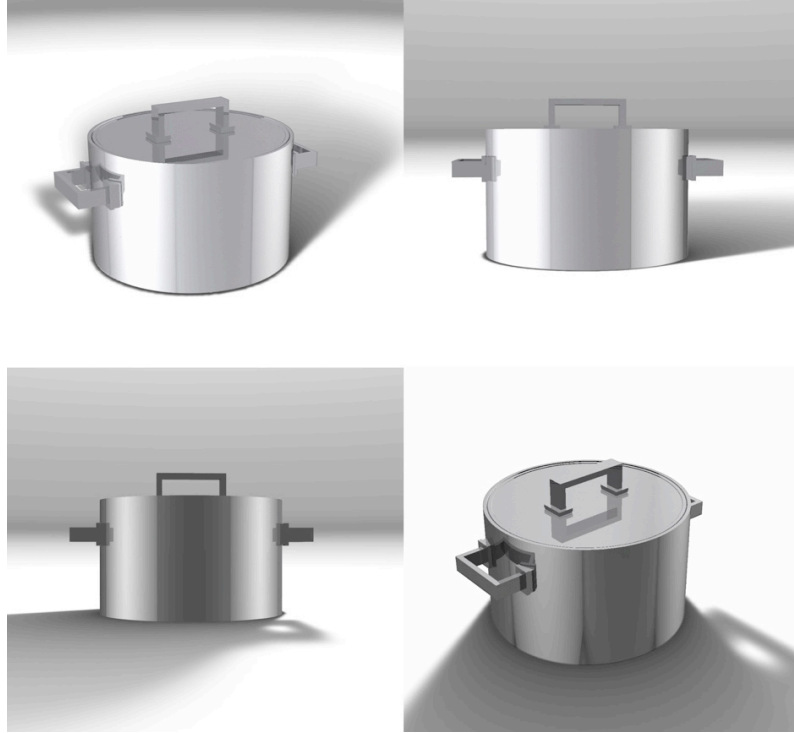
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 82 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S2



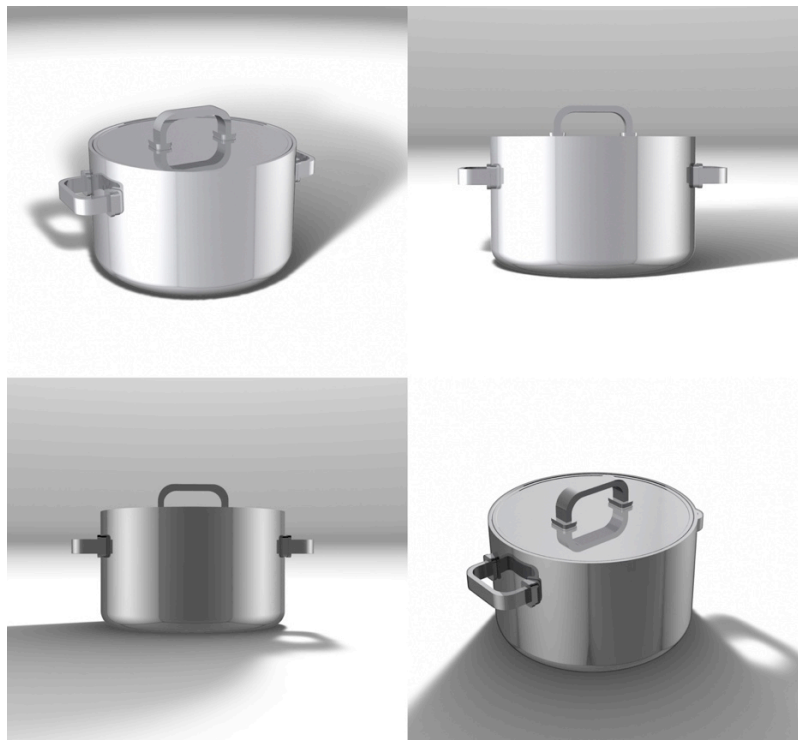
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 83 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S3



Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 84 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S1 and DDL2_BFD_S4



Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 85 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S1



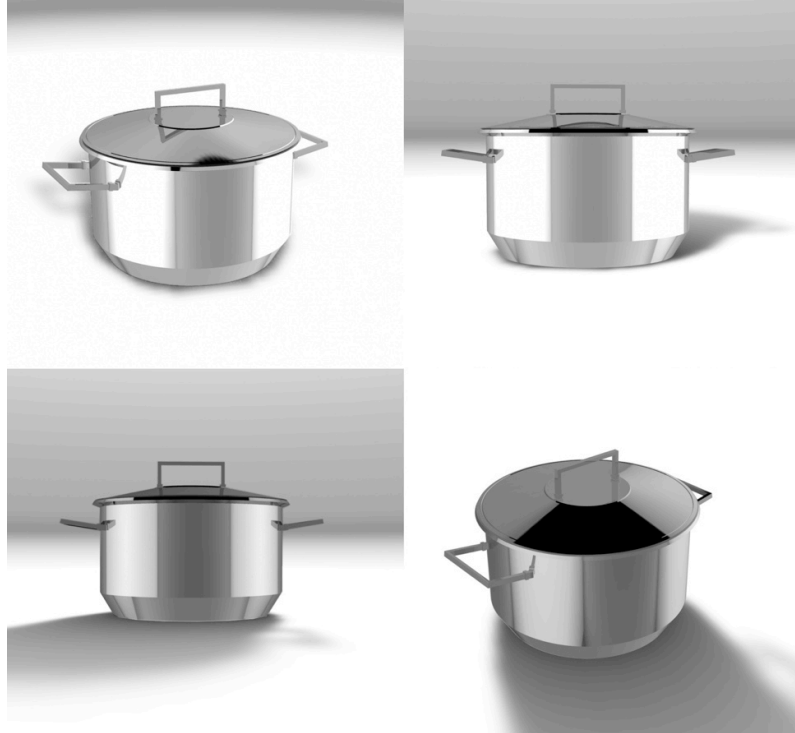
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 86 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S2



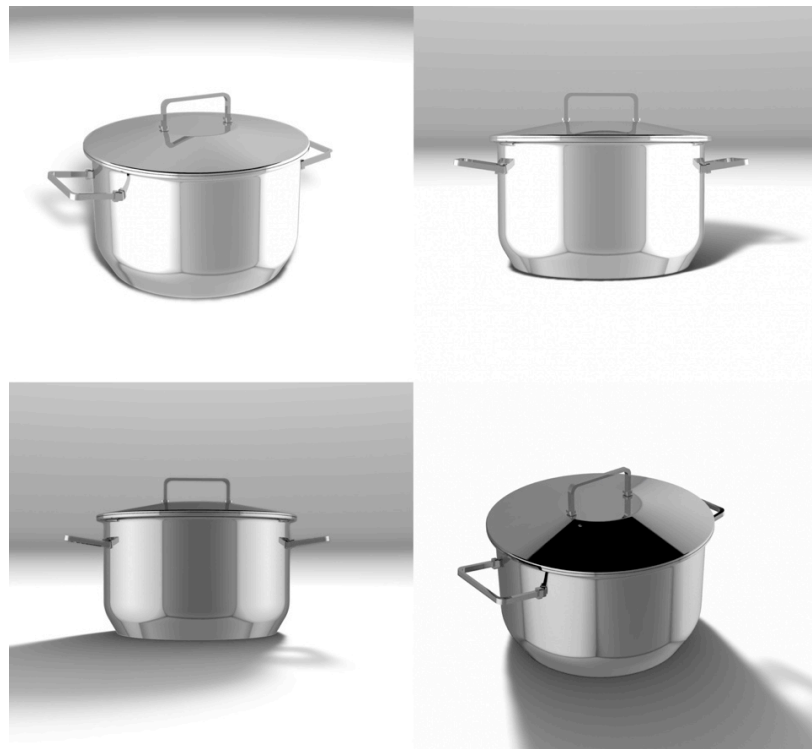
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 87 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S3



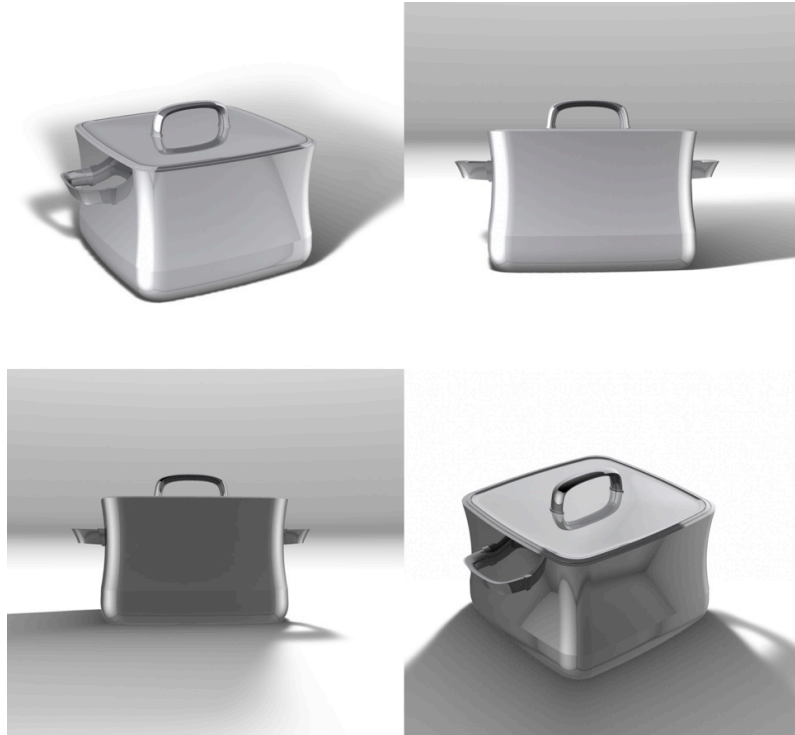
Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 88 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S2 and DDL2_BFD_S4



Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 89 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S1



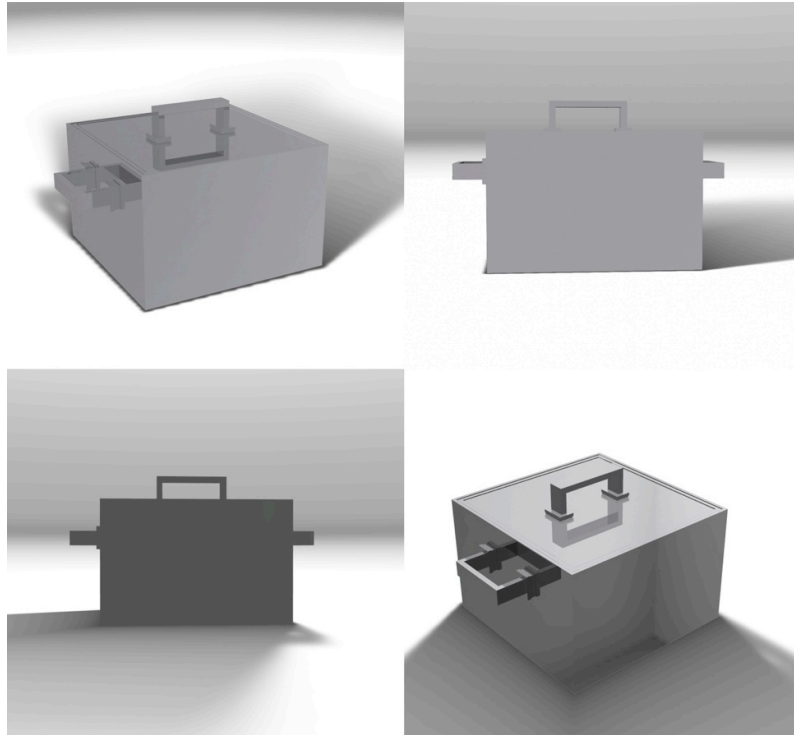
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 90 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S2



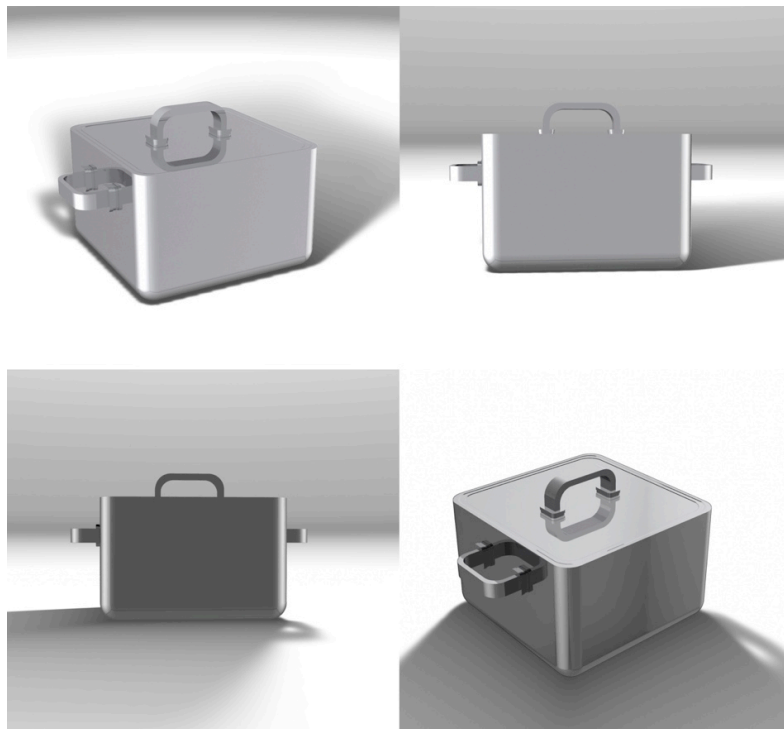
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 91 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S3



Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 92 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S3 and DDL2_BFD_S4



Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 93 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S1



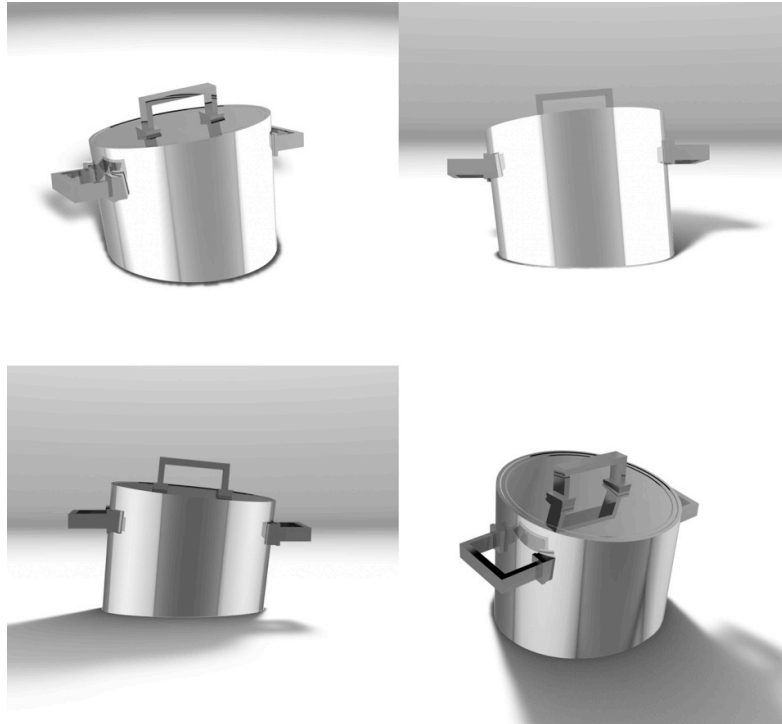
Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 94 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S2



Application of BFD Item 5: Curved Planes, combined with BFD Item 6: Rounded Edges.

Appendix Image 95 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S3



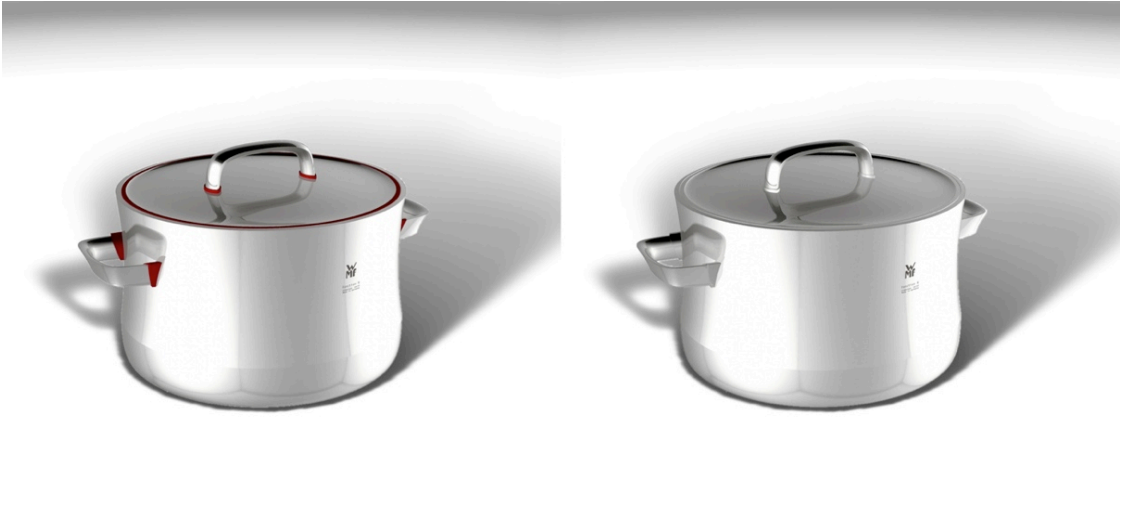
Application of BFD Item 4: Flat Planes, combined with BFD Item 7: Sharp Edges.

Appendix Image 96 WMF Saucepan BFD Stimulus referring to DDL1_BFD_S4 and DDL2_BFD_S4



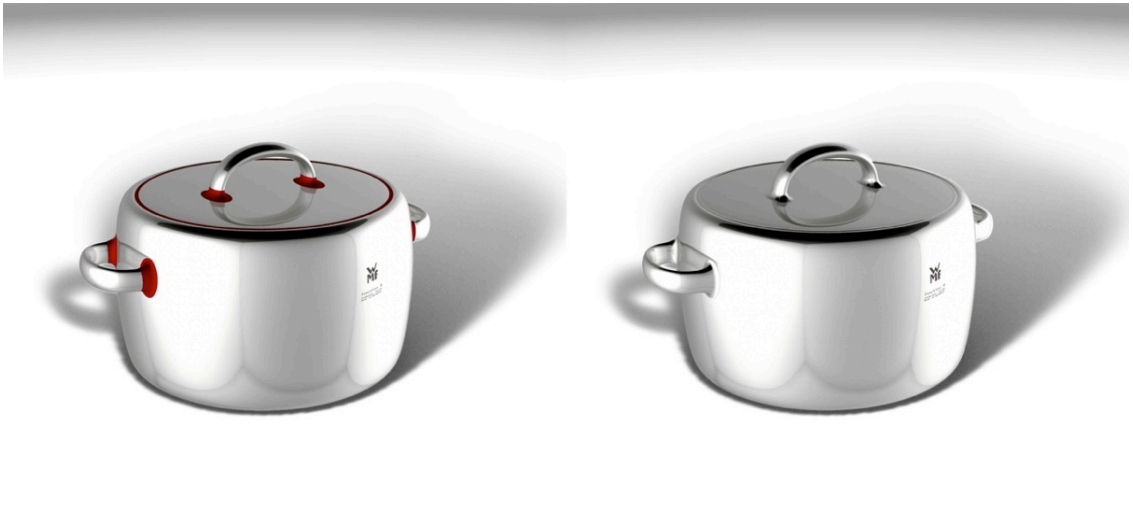
Application of BFD Item 4: Flat Planes, combined with BFD Item 6: Rounded Edges and BFD Item 7: Sharp Edges.

Appendix Image 97 DDL3_BFD_S1, S2 referring to DDL1_BFD_S1 and DDL2_BFD_S1



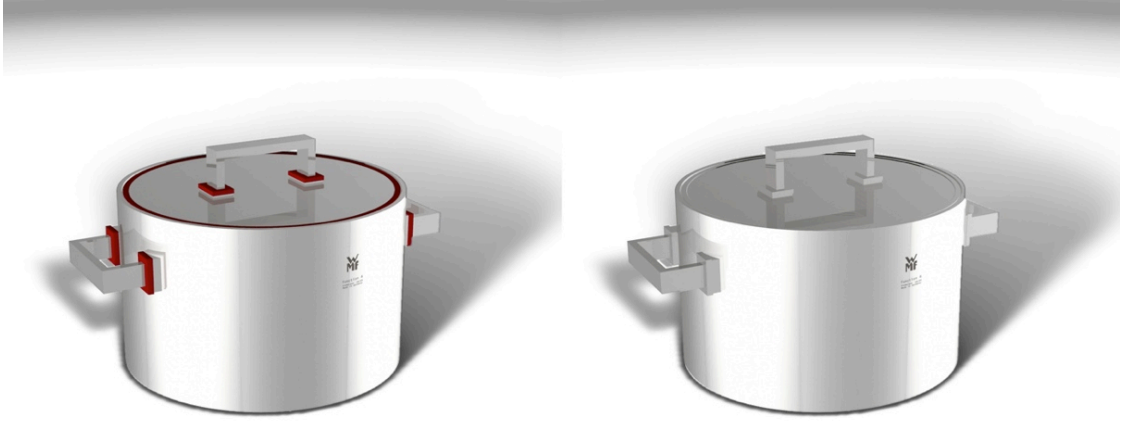
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 98 DDL3_BFD_S1, S2 referring to DDL1_BFD_S1 and DDL2_BFD_S2



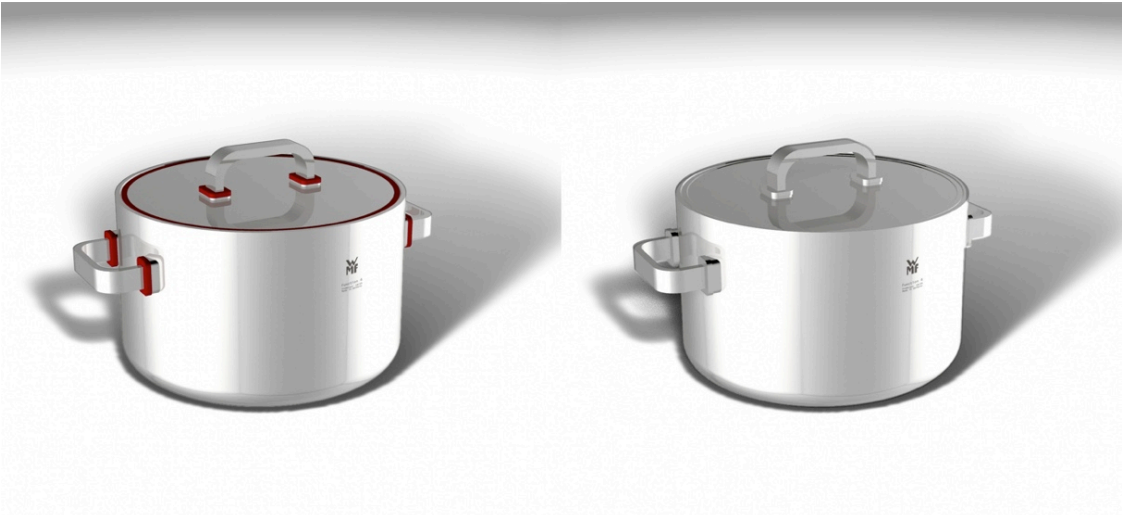
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 99 DDL3_BFD_S1, S2 referring to DDL1_BFD_S1 and DDL2_BFD_S3



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 100 DDL3_BFD_S1, S2 referring to DDL1_BFD_S1 and DDL2_BFD_S4



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 101 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S1



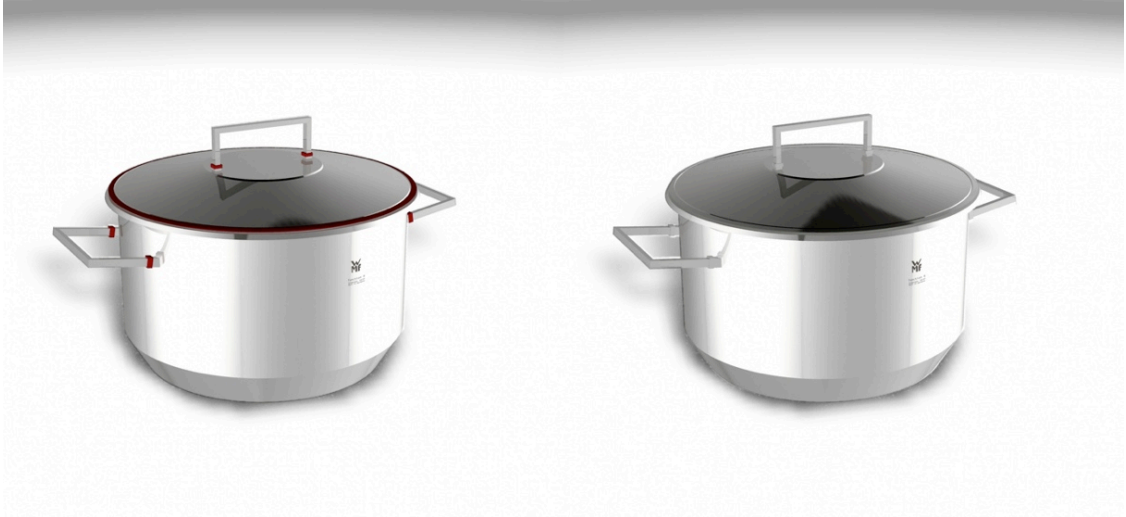
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 102 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S2



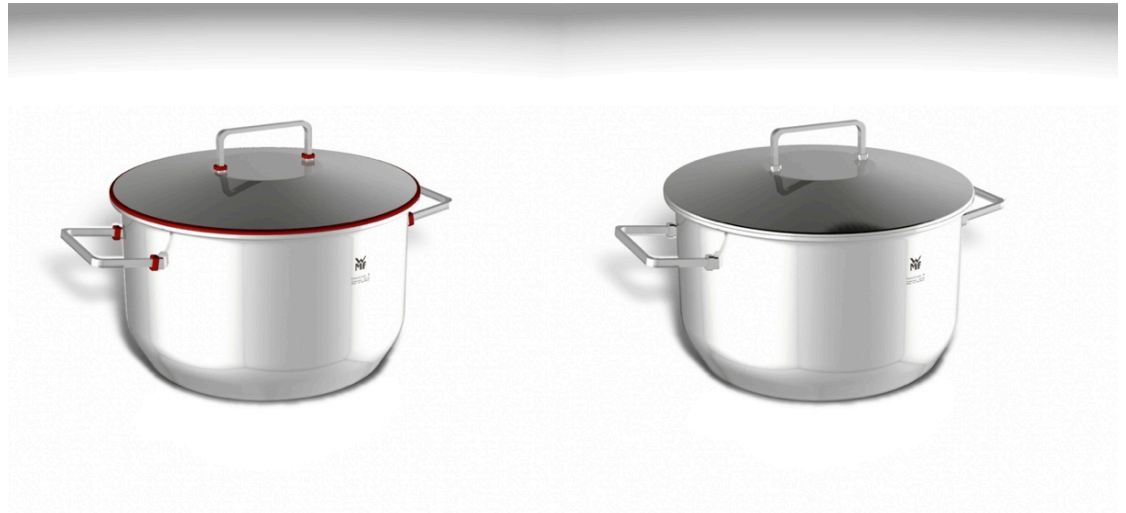
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 103 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S3



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 104 DDL3_BFD_S1, S2 referring to DDL1_BFD_S2 and DDL2_BFD_S4



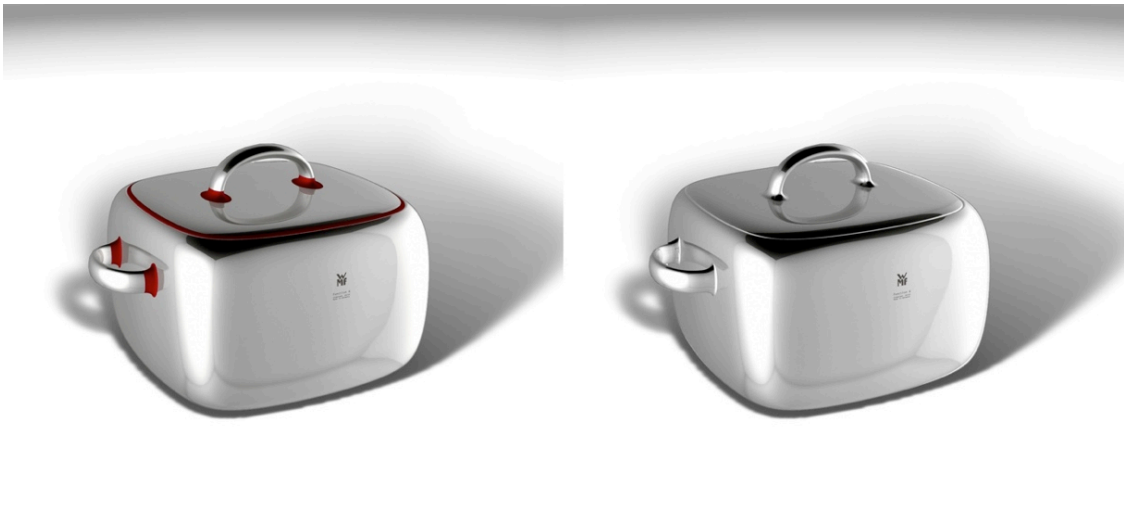
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 105 DDL3_BFD_S1, S2 referring to DDL1_BFD_S3 and DDL2_BFD_S1



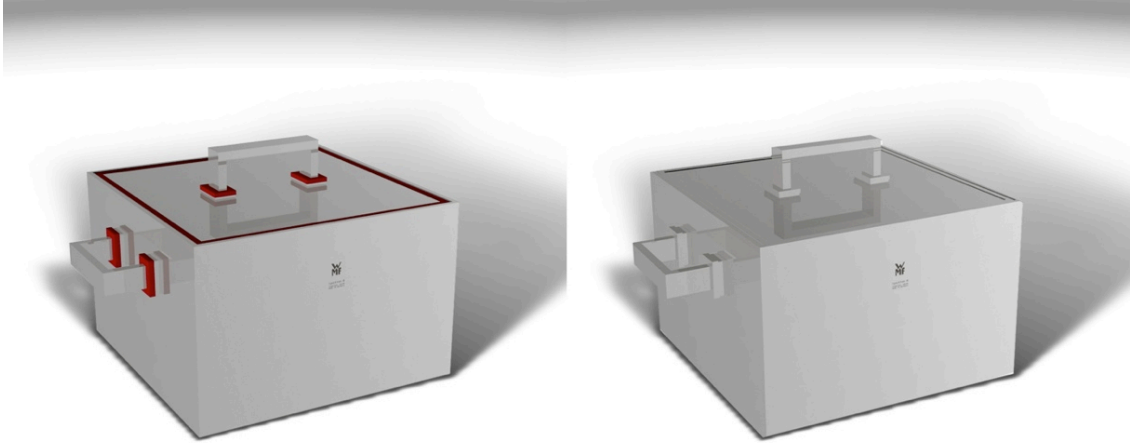
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 106 DDL3_BFD_S1, S2 referring to DDL1_BFD_S3 and DDL2_BFD_S2



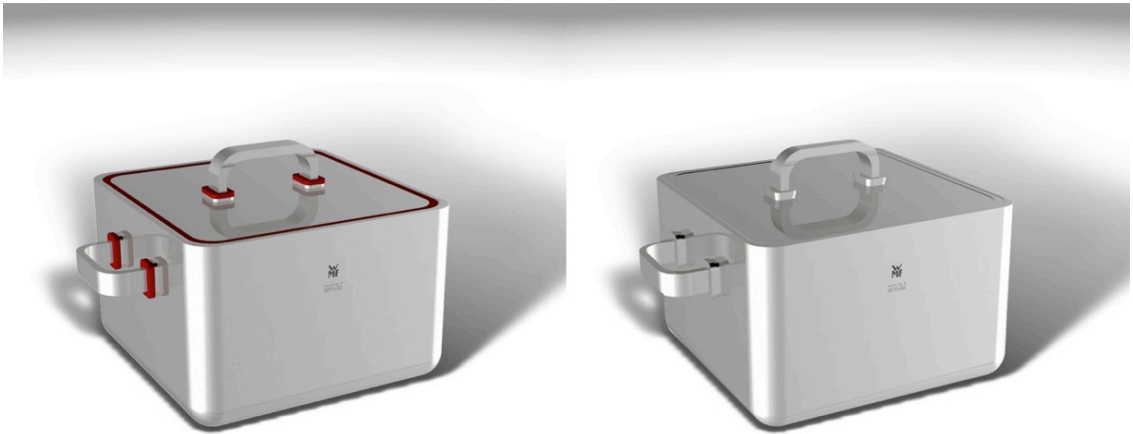
Left Image: Application of BFD Item 8: MSDGE

Appendix Image 107 DDL3_BFD_S1, S2 referring to DDL1_BFD_S3 and DDL2_BFD_S3



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 108 DDL3_BFD_S1, S2 referring to DDL1_BFD_S3 and DDL2_BFD_S4



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 109 DDL3_BFD_S1, S2 referring to DDL1_BFD_S4 and DDL2_BFD_S1



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 110 DDL3_BFD_S1, S2 referring to DDL1_BFD_S4 and DDL2_BFD_S2



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 111 DDL3_BFD_S1, S2 referring to DDL1_BFD_S4 and DDL2_BFD_S3



Left Image: Application of BFD Item 8: MSDGE

Appendix Image 112 DDL3_BFD_S1, S2 referring to DDL1_BFD_S4 and DDL2_BFD_S4



Left Image: Application of BFD Item 8: MSDGE

8.4 QUESTIONNAIRE

Appendix image 113 questionnaire

Jan Of

Univ.-Prof. Dr. Oliver P. Heil
 Lehrstuhl für Marketing und BWL
 Johannes Gutenberg-Universität Mainz
 FB 03, Jakob Welter-Weg 9
 D-55099 Mainz



	A	B	C	D
1				
2				
3				
4				
X				
Y				
P				
ALTER:	SEX:		M	W
Kennen sie die Marke.....?			J	N
Verwenden sie dieses Produkt der Marke?			J	N
Ort	Datum			

	A	B	C	D
1				
2				
3				
4				
X				
Y				
P				
ALTER:	SEX:		M	W
Kennen sie die Marke.....?			J	N
Verwenden sie dieses Produkt der Marke?			J	N
Ort	Datum			

	A	B	C	D
1				
2				
3				
4				
X				
Y				
P				
ALTER:	SEX:		M	W
Kennen sie die Marke.....?			J	N
Verwenden sie dieses Produkt der Marke?			J	N
Ort	Datum			

	A	B	C	D
1				
2				
3				
4				
X				
Y				
P				
ALTER:	SEX:		M	W
Kennen sie die Marke.....?			J	N
Verwenden sie dieses Produkt der Marke?			J	N
Ort	Datum			

8.5 RESEARCH RESULTS

AGE, GENDER, PLACES AND BRAND KNOWLEDGE OF PROBANDS

PLACES OF EXECUTED INTERVIEWS

Appendix Table 1: Cities where interviews were executed

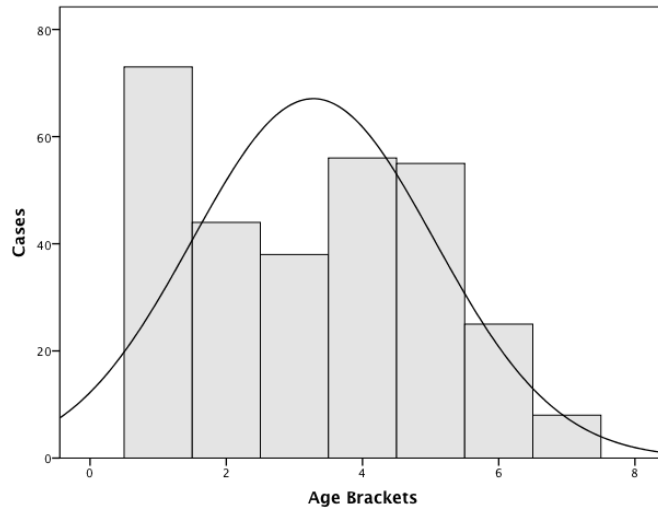
Cities where interviews were executed		Frequency	Percent	Valid percent
Valid	Balingen	82	27,3	27,3
	Reutlingen	73	24,3	24,3
	Tübingen	91	30,3	30,3
	Ulm	54	18,0	18,0
	Total	300	100,0	100,0

AGE BRACKETS OF ALL PROBANDS

Appendix Table 2: Age Brackets of all probands, standard deviation and mean

Age brackets						Standard deviation and mean of age brackets		
		Classification	Frequency	Percent	Valid percent	N	Valid	299
Valid	≤ 25y	1	73	24,3	24,4		Mean	Missing
	26-35y	2	44	14,7	14,7	Std. Deviation		
	36-45y	3	38	12,7	12,7			1,778
	46-55y	4	56	18,7	18,7			
	56-65y	5	55	18,3	18,4			
	66-75y	6	25	8,3	8,4			
	≥ 76	7	8	2,7	2,7			
	Total		299	99,7	100,0			
Missing	System		1	0,3				
Total			300	100				

Appendix Chart 1: Gender of probands

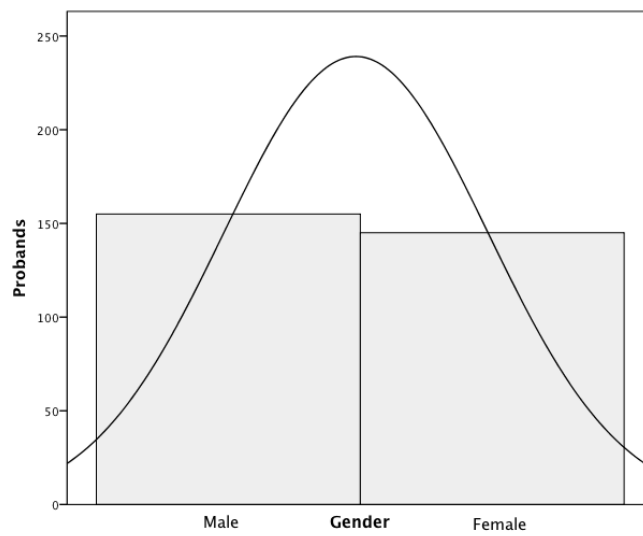


GENDER OF ALL PROBANDS

Appendix Table 3: Gender of all probands, standard deviation and mean

Gender of probands					Standard deviation and mean of gender		
		Classification	Frequency	Percent	N	Valid	300
Valid	Male	0	155	51,7		Mean	Missing
	Female	1	145	48,3	0,48		
	Total		300				

Appendix Chart 2: Gender of probands



GENDER OF PROBANDS ACCORDING TO PRODUCT/ BRAND

Appendix Table 4: Standard deviation and mean concerning gender and product/ brand

Standard deviation and mean of gender	Classification		SCHAUMA			STIHL			WMF		
	Male	0	N	Valid	100	N	Valid	100	N	Valid	100
Female	1		Missing	0		Missing	0		Missing	0	
			Mean	0,60		Mean	0,23		Mean	0,62	
			Std. Deviation	0,492		Std. Deviation	0,423		Std. Deviation	0,488	

Appendix Table 5: Crosstabulation: Gender * product/ brand

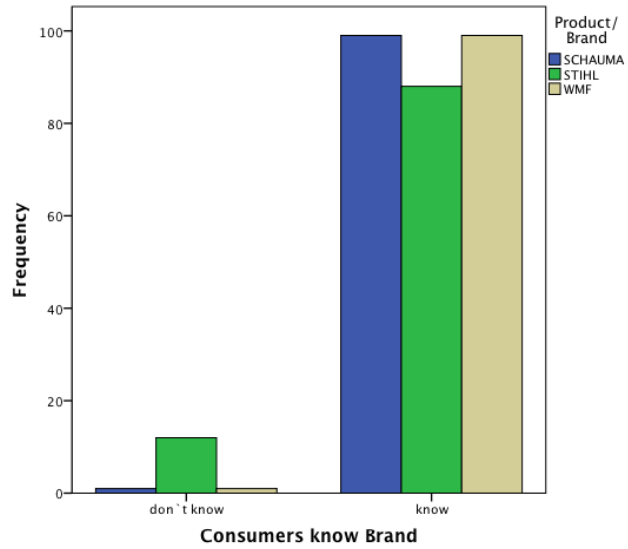
Crosstabulation: Gender * product/ brand						
			Product/ Brand			Total
			SCHAUMA	STIHL	WMF	
Gender	Male	Count	40	77	38	155
		% within Product/ Brand	40,0%	77,0%	38,0%	51,7%
	Female	Count	60	23	62	145
		% within Product/ Brand	60,0%	23,0%	62,0%	48,3%
Total		Count	100	100	100	300
		% within Product/ Brand	100,0%	100,0%	100,0%	100,0%

CONSUMERS KNOW THE BRAND

Appendix Table 6: Crosstabulation: Consumers know brand * Product/ Brand

Crosstabulation: Consumers know Brand * Product/ Brand						
			Product/ Brand			Total
			SCHAUMA	STIHL	WMF	
Consumers know Brand	don't know	Count	1	12	1	14
		% within Product/ Brand	1,0%	12,0%	1,0%	4,7%
	know	Count	99	88	99	286
		% within Product/ Brand	99,0%	88,0%	99,0%	95,3%
Total		Count	100	100	100	300
		% within Product/ Brand	100,0%	100,0%	100,0%	100,0%

Appendix Chart 3: Consumers know Product/ Brand



DISTINCTIVE DESIGN LEVELSDDL1 ANALYSIS OF GESTALT

Appendix Table 7: Crosstabulation: Preferences concerning Gestalt, gender and product/ brand

Crosstabulation: Gender * Gestalt * Product/ Brand								
Product/ Brand			Gestalt				Total	
			a	b	c	d		
SCHAUMA	Gender	Male	Count	16	1	10	13	40
			% within Gender	40,0%	2,5%	25,0%	32,5%	100,0%
			% within Gestalt	51,6%	33,3%	76,9%	24,5%	40,0%
	Gender	Female	Count	15	2	3	40	60
			% within Gender	25,0%	3,3%	5,0%	66,7%	100,0%
			% within Gestalt	48,4%	66,7%	23,1%	75,5%	60,0%
	Total	Count	31	3	13	53	100	
		% within Gender	31,0%	3,0%	13,0%	53,0%	100,0%	
		% within Gestalt	100,0%	100,0%	100,0%	100,0%	100,0%	
STIHL	Gender	Male	Count	27	6	10	34	77
			% within Gender	35,1%	7,8%	13,0%	44,2%	100,0%
			% within Gestalt	81,8%	54,5%	71,4%	81,0%	77,0%
	Gender	Female	Count	6	5	4	8	23
			% within Gender	26,1%	21,7%	17,4%	34,8%	100,0%
			% within Gestalt	18,2%	45,5%	28,6%	19,0%	23,0%
	Total	Count	33	11	14	42	100	
		% within Gender	33,0%	11,0%	14,0%	42,0%	100,0%	
		% within Gestalt	100,0%	100,0%	100,0%	100,0%	100,0%	
WMF	Gender	Male	Count	14	0	20	4	38

Crosstabulation: Gender * Gestalt * Product/ Brand									
Product/ Brand				Gestalt				Total	
				a	b	c	d		
	Female		% within Gender	36,8%	0,0%	52,6%	10,5%	100,0%	
			% within Gestalt	35,9%	0,0%	40,0%	40,0%	38,0%	
		Count	25	1	30	6	62		
		% within Gender	40,3%	1,6%	48,4%	9,7%	100,0%		
		% within Gestalt	64,1%	100,0%	60,0%	60,0%	62,0%		
		Total	Count	39	1	50	10	100	
	% within Gender	39,0%	1,0%	50,0%	10,0%	100,0%			
	% within Gestalt	100,0%	100,0%	100,0%	100,0%	100,0%			
	Total	Gender	Male	Count	57	7	40	51	155
				% within Gender	36,8%	4,5%	25,8%	32,9%	100,0%
% within Gestalt				55,3%	46,7%	51,9%	48,6%	51,7%	
Female			Count	46	8	37	54	145	
			% within Gender	31,7%	5,5%	25,5%	37,2%	100,0%	
			% within Gestalt	44,7%	53,3%	48,1%	51,4%	48,3%	
Total		Count	103	15	77	105	300		
% within Gender		34,3%	5,0%	25,7%	35,0%	100,0%			
% within Gestalt		100,0%	100,0%	100,0%	100,0%	100,0%			

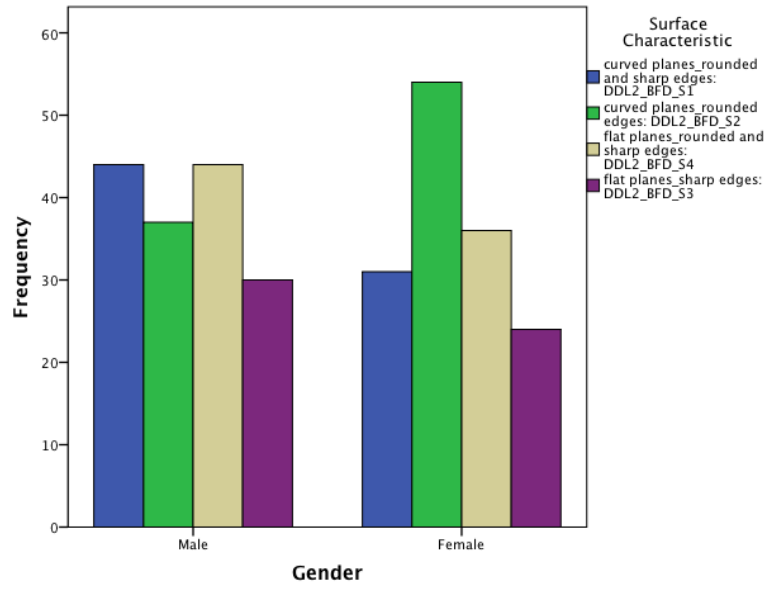
DDL2 ANALYSIS OF SURFACE

Appendix Table 8: Crosstabulation: Gender * surface characteristic * product/ brand

Crosstabulation: Gender * Surface Characteristic * Product/ Brand								
Product/ Brand				Surface Characteristic				Total
				curved planes_rounded and sharp edges: DDL2_BFD_S1	curved planes_rounded edges: DDL2_BFD_S2	flat planes_rounded and sharp edges: DDL2_BFD_S4	flat planes_sharp edges: DDL2_BFD_S3	
SCHAUMA	Gender	Male	Count	9	7	17	7	40
			% within Gender	22,5%	17,5%	42,5%	17,5%	100,0%
			% within Surface Characteristic	42,9%	19,4%	68,0%	38,9%	40,0%
		Female	Count	12	29	8	11	60
			% within Gender	20,0%	48,3%	13,3%	18,3%	100,0%
			% within Surface Characteristic	57,1%	80,6%	32,0%	61,1%	60,0%
	Total	Count	21	36	25	18	100	
	% within Gender	21,0%	36,0%	25,0%	18,0%	100,0%		
	% within Surface Characteristic	100,0%	100,0%	100,0%	100,0%	100,0%		
	STIHL	Gender	Male	Count	29	22	12	14

Crosstabulation: Gender * Surface Characteristic * Product/ Brand									
Product/ Brand			Surface Characteristic				Total		
			curved planes_rounded and sharp edges: DDL2_BFD_S1	curved planes_rounded edges: DDL2_BFD_S2	flat planes_rounded and sharp edges: DDL2_BFD_S4	flat planes_sharp edges: DDL2_BFD_S3			
			% within Gender	37,7%	28,6%	15,6%	18,2%	100,0%	
			% within Surface Characteristic	76,3%	78,6%	70,6%	82,4%	77,0%	
			Count	9	6	5	3	23	
		Female	% within Gender	39,1%	26,1%	21,7%	13,0%	100,0%	
			% within Surface Characteristic	23,7%	21,4%	29,4%	17,6%	23,0%	
			Count	9	6	5	3	23	
	Total	Count	38	28	17	17	100		
		% within Gender	38,0%	28,0%	17,0%	17,0%	100,0%		
		% within Surface Characteristic	100,0%	100,0%	100,0%	100,0%	100,0%		
	WMF	Gender	Male	Count	6	8	15	9	38
				% within Gender	15,8%	21,1%	39,5%	23,7%	100,0%
				% within Surface Characteristic	37,5%	29,6%	39,5%	47,4%	38,0%
Female			Count	10	19	23	10	62	
			% within Gender	16,1%	30,6%	37,1%	16,1%	100,0%	
			% within Surface Characteristic	62,5%	70,4%	60,5%	52,6%	62,0%	
Total		Count	16	27	38	19	100		
		% within Gender	16,0%	27,0%	38,0%	19,0%	100,0%		
		% within Surface Characteristic	100,0%	100,0%	100,0%	100,0%	100,0%		
Total	Gender	Male	Count	44	37	44	30	155	
			% within Gender	28,4%	23,9%	28,4%	19,4%	100,0%	
			% within Surface Characteristic	58,7%	40,7%	55,0%	55,6%	51,7%	
		Female	Count	31	54	36	24	145	
			% within Gender	21,4%	37,2%	24,8%	16,6%	100,0%	
			% within Surface Characteristic	41,3%	59,3%	45,0%	44,4%	48,3%	
	Total	Count	75	91	80	54	300		
		% within Gender	25,0%	30,3%	26,7%	18,0%	100,0%		
		% within Surface Characteristic	100,0%	100,0%	100,0%	100,0%	100,0%		

Appendix Chart 4: Preferences concerning surface characteristics and gender

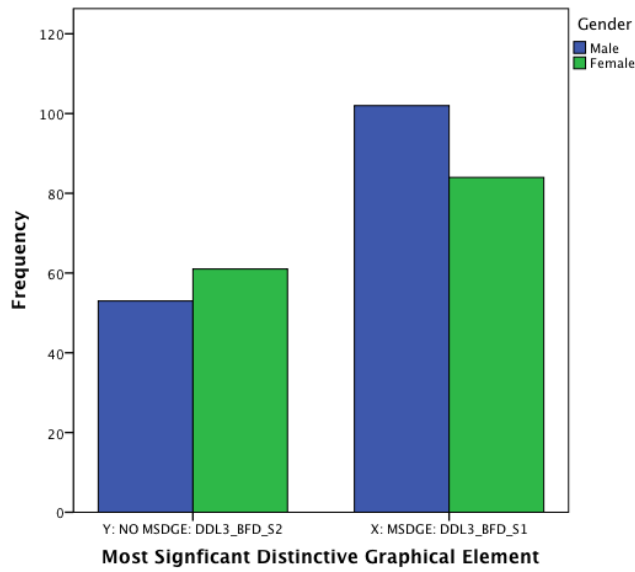


DDL3 ANALYSIS OF MOST SIGNIFICANT DISTINCTIVE GRAPHICAL ELEMENT (MSDGE)

Appendix Table 9: Crosstabulation: MSDGE * product/ brand

Crosstabulation: Gender * Most Significant Distinctive Graphical Element * Product/ Brand						
Product/ Brand				Most Significant Distinctive Graphical Element		Total
				Y: NO MSDGE: DDL3_BFD_S2	X: MSDGE: DDL3_BFD_S1	
SCHAUMA	Gender	Male	Count	11	29	40
			% within Gender	27,5%	72,5%	100,0%
		Female	Count	18	42	60
			% within Gender	30,0%	70,0%	100,0%
	Total		Count	29	71	100
			% within Gender	29,0%	71,0%	100,0%
STIHL	Gender	Male	Count	23	54	77
			% within Gender	29,9%	70,1%	100,0%
		Female	Count	10	13	23
			% within Gender	43,5%	56,5%	100,0%
	Total		Count	33	67	100
			% within Gender	33,0%	67,0%	100,0%
WMF	Gender	Male	Count	19	19	38
			% within Gender	50,0%	50,0%	100,0%
		Female	Count	33	29	62
			% within Gender	53,2%	46,8%	100,0%
	Total		Count	52	48	100
			% within Gender	52,0%	48,0%	100,0%
Total	Gender	Male	Count	53	102	155
			% within Gender	34,2%	65,8%	100,0%
		Female	Count	61	84	145
			% within Gender	42,1%	57,9%	100,0%
	Total		Count	114	186	300
			% within Gender	38,0%	62,0%	100,0%

Appendix Chart 5: Preference of MSDGE by gender



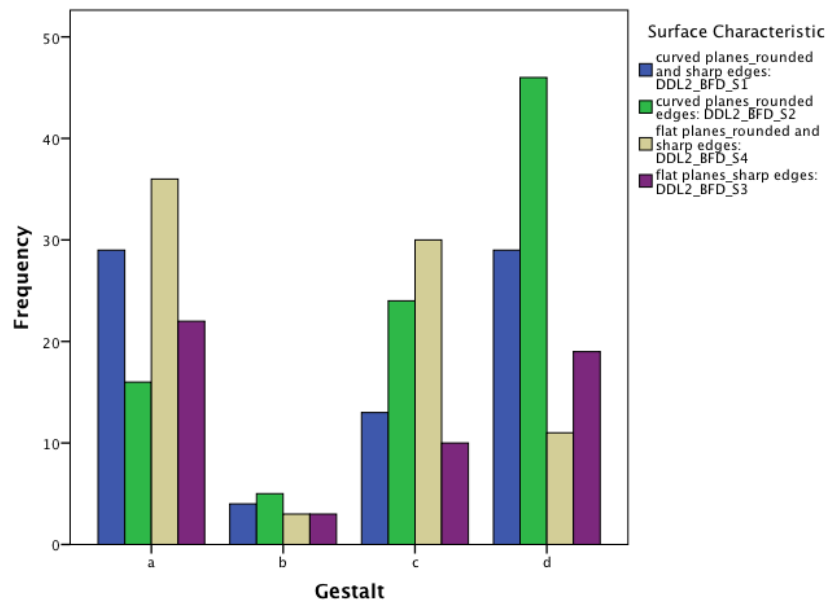
COMBINATION OF DDL 1 GESTALT AND DDL2 SURFACE

Appendix Table 10: Crosstabulation: Gestalt * surface characteristic * product/ brand crosstabulation

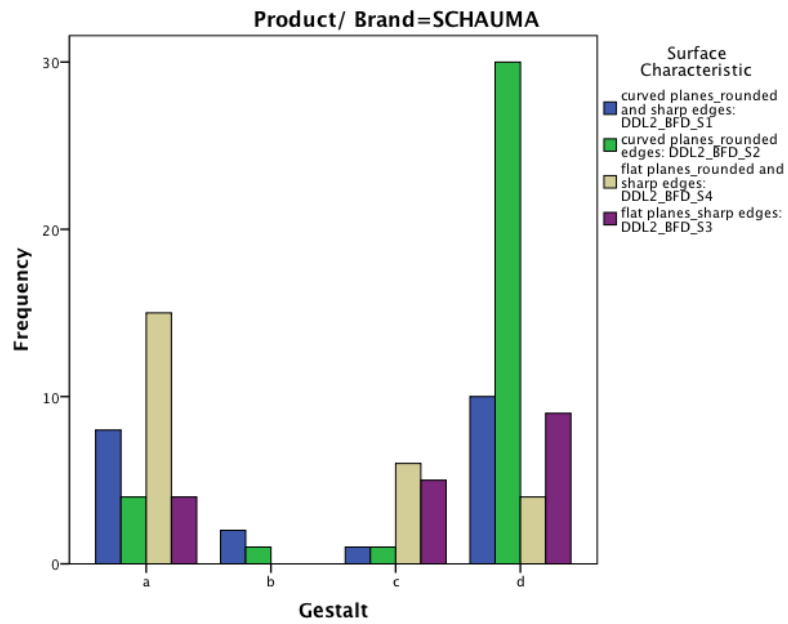
Crosstabulation: Gestalt * Surface Characteristic * Product/ Brand Crosstabulation								
Product/ Brand				Surface Characteristic				Total
				curved planes_rounded and sharp edges: DDL2_BFD_S1	curved planes_rounded edges: DDL2_BFD_S2	flat planes_rounded and sharp edges: DDL2_BFD_S4	flat planes_sharp edges: DDL2_BFD_S3	
SCHAUMA	Gestalt	a	Count	8	4	15	4	31
			% of Total	8,0%	4,0%	15,0%	4,0%	31,0%
		b	Count	2	1	0	0	3
			% of Total	2,0%	1,0%	0,0%	0,0%	3,0%
		c	Count	1	1	6	5	13
			% of Total	1,0%	1,0%	6,0%	5,0%	13,0%
		d	Count	10	30	4	9	53
			% of Total	10,0%	30,0%	4,0%	9,0%	53,0%
	Total		Count	21	36	25	18	100
			% of Total	21,0%	36,0%	25,0%	18,0%	100,0%
STIHL	Gestalt	a	Count	14	8	3	8	33
			% of Total	14,0%	8,0%	3,0%	8,0%	33,0%
		b	Count	2	4	3	2	11
			% of Total	2,0%	4,0%	3,0%	2,0%	11,0%

Crosstabulation: Gestalt * Surface Characteristic * Product/ Brand Crosstabulation							
Product/ Brand			Surface Characteristic				Total
			curved planes_ rounded and sharp edges: DDL2_BFD_S1	curved planes_ rounded edges: DDL2_BFD_S2	flat planes_ rounded and sharp edges: DDL2_BFD_S4	flat planes_ sharp edges: DDL2_BFD_S3	
	c	Count	5	3	6	0	14
		% of Total	5,0%	3,0%	6,0%	0,0%	14,0%
	d	Count	17	13	5	7	42
		% of Total	17,0%	13,0%	5,0%	7,0%	42,0%
	Total	Count	38	28	17	17	100
		% of Total	38,0%	28,0%	17,0%	17,0%	100,0%
WMF	Gestalt a	Count	7	4	18	10	39
		% of Total	7,0%	4,0%	18,0%	10,0%	39,0%
	b	Count	0	0	0	1	1
		% of Total	0,0%	0,0%	0,0%	1,0%	1,0%
	c	Count	7	20	18	5	50
		% of Total	7,0%	20,0%	18,0%	5,0%	50,0%
	d	Count	2	3	2	3	10
		% of Total	2,0%	3,0%	2,0%	3,0%	10,0%
	Total	Count	16	27	38	19	100
		% of Total	16,0%	27,0%	38,0%	19,0%	100,0%
Total	Gestalt a	Count	29	16	36	22	103
		% of Total	9,7%	5,3%	12,0%	7,3%	34,3%
	b	Count	4	5	3	3	15
		% of Total	1,3%	1,7%	1,0%	1,0%	5,0%
	c	Count	13	24	30	10	77
		% of Total	4,3%	8,0%	10,0%	3,3%	25,7%
	d	Count	29	46	11	19	105
		% of Total	9,7%	15,3%	3,7%	6,3%	35,0%
	Total	Count	75	91	80	54	300
		% of Total	25,0%	30,3%	26,7%	18,0%	100,0%

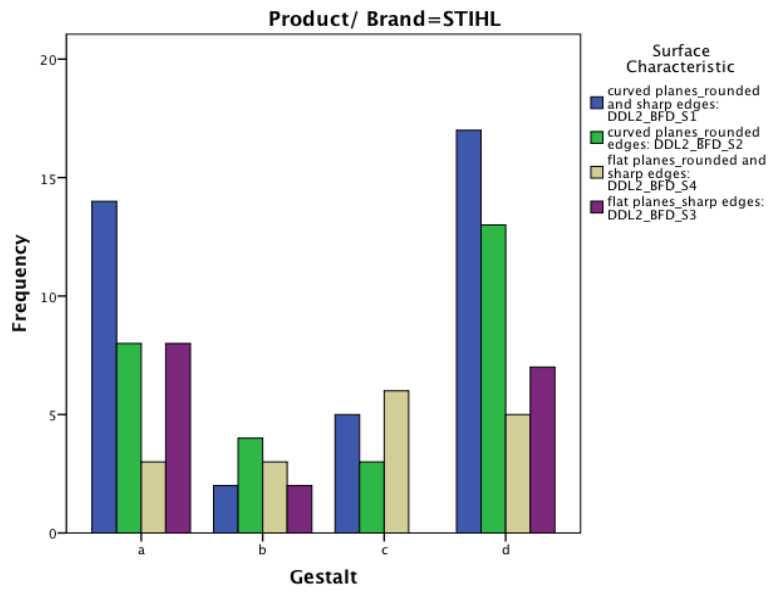
Appendix Chart 6: General relationships between Gestalt and surface characteristic



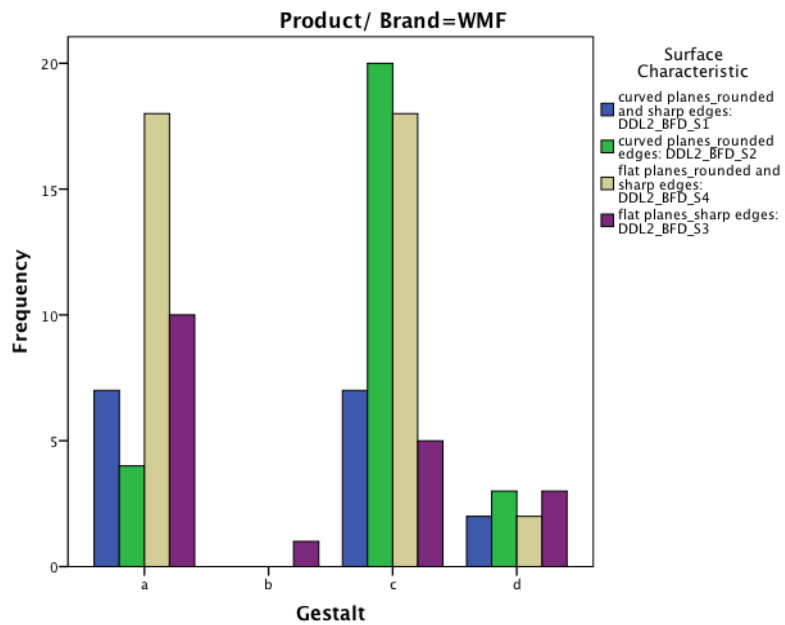
Appendix Chart 7: Preferred combination of Gestalt and surface characteristic in the case of SCHAUMA



Appendix Chart 8: Preferred combination of Gestalt and surface characteristic in the case of STIHL



Appendix Chart 9: Preferred combination of gestalt and surface characteristic in the case of WMF



BY CONSUMERS CONFIGURED DESIGNS

PREFERRED DESIGN CONFIGURATIONS IN TOTAL

Appendix Table 11: By consumers configured design

By Consumers Configured Design	Frequency	Percent	
Valid	d2x	34	11,3
	a3x	21	7,0
	d1x	20	6,7
	a1x	18	6,0
	c3y	17	5,7
	a3y	15	5,0
	c2x	15	5,0
	a4x	13	4,3
	c3x	13	4,3
	a2x	12	4,0
	a1y	11	3,7
	d2y	11	3,7
	d4x	11	3,7
	d1y	10	3,3
	a4y	9	3,0
	c2y	9	3,0
	d4y	8	2,7
	c1y	7	2,3
	c4x	7	2,3
	d3x	7	2,3
	c1x	6	2,0
	a2y	4	1,3
	d3y	4	1,3
	b2x	3	1,0
	b4x	3	1,0
	c4y	3	1,0
	b1x	2	,7
	b1y	2	,7
	b2y	2	,7
	b3y	2	,7
b3x	1	,3	
Total	300	100,0	

PREFERRED DESIGN CONFIGURATIONS ACCORDING TO PRODUCT/ BRAND

Appendix Table 12: Crosstabulation: By consumers configured design * product/ brand

Crosstabulation: By Consumers Configured Design * Product/ Brand			Product/ Brand			Total
			SCHAUMA	STIHL	WMF	
By Consumers Configured Design	a1x	Count	5	12	1	18
		% within Product/ Brand	5,0%	12,0%	1,0%	6,0%
		% of Total	1,7%	4,0%	0,3%	6,0%
	a1y	Count	3	2	6	11
		% within Product/ Brand	3,0%	2,0%	6,0%	3,7%
		% of Total	1,0%	0,7%	2,0%	3,7%
	a2x	Count	4	5	3	12
		% within Product/ Brand	4,0%	5,0%	3,0%	4,0%
		% of Total	1,3%	1,7%	1,0%	4,0%
	a2y	Count	0	3	1	4
		% within Product/ Brand	0,0%	3,0%	1,0%	1,3%
		% of Total	0,0%	1,0%	0,3%	1,3%
	a3x	Count	13	1	7	21
		% within Product/ Brand	13,0%	1,0%	7,0%	7,0%
		% of Total	4,3%	0,3%	2,3%	7,0%
	a3y	Count	2	2	11	15
		% within Product/ Brand	2,0%	2,0%	11,0%	5,0%
		% of Total	0,7%	0,7%	3,7%	5,0%
	a4x	Count	3	7	3	13
		% within Product/ Brand	3,0%	7,0%	3,0%	4,3%
		% of Total	1,0%	2,3%	1,0%	4,3%
	a4y	Count	1	1	7	9
		% within Product/ Brand	1,0%	1,0%	7,0%	3,0%
		% of Total	0,3%	0,3%	2,3%	3,0%
	b1x	Count	0	2	0	2
		% within Product/ Brand	0,0%	2,0%	0,0%	0,7%
		% of Total	0,0%	0,7%	0,0%	0,7%
	b1y	Count	2	0	0	2
		% within Product/ Brand	2,0%	0,0%	0,0%	0,7%
		% of Total	0,7%	0,0%	0,0%	0,7%
b2x	Count	0	3	0	3	
	% within Product/ Brand	0,0%	3,0%	0,0%	1,0%	
	% of Total	0,0%	1,0%	0,0%	1,0%	
b2y	Count	1	1	0	2	
	% within Product/ Brand	1,0%	1,0%	0,0%	0,7%	
	% of Total	0,3%	0,3%	0,0%	0,7%	
b3x	Count	0	1	0	1	
	% within Product/ Brand	0,0%	1,0%	0,0%	0,3%	

Crosstabulation: By Consumers Configured Design * Product/ Brand		Product/ Brand			Total
		SCHAUMA	STIHL	WMF	
	% of Total	0,0%	0,3%	0,0%	0,3%
b3y	Count	0	2	0	2
	% within Product/ Brand	0,0%	2,0%	0,0%	0,7%
	% of Total	0,0%	0,7%	0,0%	0,7%
b4x	Count	0	2	1	3
	% within Product/ Brand	0,0%	2,0%	1,0%	1,0%
	% of Total	0,0%	0,7%	0,3%	1,0%
c1x	Count	0	5	1	6
	% within Product/ Brand	0,0%	5,0%	1,0%	2,0%
	% of Total	0,0%	1,7%	0,3%	2,0%
c1y	Count	1	0	6	7
	% within Product/ Brand	1,0%	0,0%	6,0%	2,3%
	% of Total	0,3%	0,0%	2,0%	2,3%
c2x	Count	0	2	13	15
	% within Product/ Brand	0,0%	2,0%	13,0%	5,0%
	% of Total	0,0%	0,7%	4,3%	5,0%
c2y	Count	1	1	7	9
	% within Product/ Brand	1,0%	1,0%	7,0%	3,0%
	% of Total	0,3%	0,3%	2,3%	3,0%
c3x	Count	2	3	8	13
	% within Product/ Brand	2,0%	3,0%	8,0%	4,3%
	% of Total	0,7%	1,0%	2,7%	4,3%
c3y	Count	4	3	10	17
	% within Product/ Brand	4,0%	3,0%	10,0%	5,7%
	% of Total	1,3%	1,0%	3,3%	5,7%
c4x	Count	3	0	4	7
	% within Product/ Brand	3,0%	0,0%	4,0%	2,3%
	% of Total	1,0%	0,0%	1,3%	2,3%
c4y	Count	2	0	1	3
	% within Product/ Brand	2,0%	0,0%	1,0%	1,0%
	% of Total	0,7%	0,0%	0,3%	1,0%
d1x	Count	8	10	2	20
	% within Product/ Brand	8,0%	10,0%	2,0%	6,7%
	% of Total	2,7%	3,3%	0,7%	6,7%
d1y	Count	2	8	0	10
	% within Product/ Brand	2,0%	8,0%	0,0%	3,3%
	% of Total	0,7%	2,7%	0,0%	3,3%
d2x	Count	25	7	2	34
	% within Product/ Brand	25,0%	7,0%	2,0%	11,3%
	% of Total	8,3%	2,3%	0,7%	11,3%
d2y	Count	5	5	1	11

Crosstabulation: By Consumers Configured Design * Product/ Brand		Product/ Brand			Total	
		SCHAUMA	STIHL	WMF		
		% within Product/ Brand	5,0%	5,0%	1,0%	3,7%
		% of Total	1,7%	1,7%	0,3%	3,7%
	d3x	Count	4	2	1	7
		% within Product/ Brand	4,0%	2,0%	1,0%	2,3%
		% of Total	1,3%	0,7%	0,3%	2,3%
	d3y	Count	0	3	1	4
		% within Product/ Brand	0,0%	3,0%	1,0%	1,3%
		% of Total	0,0%	1,0%	0,3%	1,3%
	d4x	Count	4	5	2	11
		% within Product/ Brand	4,0%	5,0%	2,0%	3,7%
		% of Total	1,3%	1,7%	0,7%	3,7%
	d4y	Count	5	2	1	8
		% within Product/ Brand	5,0%	2,0%	1,0%	2,7%
		% of Total	1,7%	0,7%	0,3%	2,7%
	Total	Count	100	100	100	300
% within Product/ Brand		100,0%	100,0%	100,0%	100,0%	
% of Total		33,3%	33,3%	33,3%	100,0%	

PREFERRED DESIGN CONFIGURATIONS ACCORDING TO PRODUCT/ BRAND AND GENDER

Appendix Table 14: Crosstabulation: By consumers configured design * Product/ Brand * gender

Crosstabulation: By Consumers Configured Design * Product/ Brand * Gender							
Gender				Product/ Brand			Total
				SCHAUMA	STIHL	WMF	
Male	By Consumers Configured Design	a1x	Count	4	9	0	13
			% within Product/ Brand	10,0%	11,7%	0,0%	8,4%
			% of Total	2,6%	5,8%	0,0%	8,4%
		a1y	Count	1	2	1	4
			% within Product/ Brand	2,5%	2,6%	2,6%	2,6%
			% of Total	0,6%	1,3%	0,6%	2,6%
		a2x	Count	1	5	1	7
			% within Product/ Brand	2,5%	6,5%	2,6%	4,5%
			% of Total	0,6%	3,2%	0,6%	4,5%
		a2y	Count	0	2	0	2
			% within Product/ Brand	0,0%	2,6%	0,0%	1,3%
			% of Total	0,0%	1,3%	0,0%	1,3%
		a3x	Count	8	1	3	12
			% within Product/ Brand	20,0%	1,3%	7,9%	7,7%
			% of Total	5,2%	0,6%	1,9%	7,7%
		a3y	Count	1	0	4	5
			% within Product/ Brand	2,5%	0,0%	10,5%	3,2%
			% of Total	0,6%	0,0%	2,6%	3,2%
		a4x	Count	1	7	2	10
			% within Product/ Brand	2,5%	9,1%	5,3%	6,5%
			% of Total	0,6%	4,5%	1,3%	6,5%
		a4y	Count	0	1	3	4
			% within Product/ Brand	0,0%	1,3%	7,9%	2,6%
			% of Total	0,0%	0,6%	1,9%	2,6%
		b1x	Count	0	1	0	1
			% within Product/ Brand	0,0%	1,3%	0,0%	0,6%
			% of Total	0,0%	0,6%	0,0%	0,6%
		b1y	Count	1	0	0	1
			% within Product/ Brand	2,5%	0,0%	0,0%	0,6%
			% of Total	0,6%	0,0%	0,0%	0,6%
		b2x	Count	0	1	0	1
			% within Product/ Brand	0,0%	1,3%	0,0%	0,6%
			% of Total	0,0%	0,6%	0,0%	0,6%
		b3x	Count	0	1	0	1
			% within Product/ Brand	0,0%	1,3%	0,0%	0,6%

Crosstabulation: By Consumers Configured Design * Product/ Brand * Gender						
Gender		Product/ Brand			Total	
		SCHAUMA	STIHL	WMF		
		% of Total				
	b3y	Count	0	2	0	2
		% within Product/ Brand	0,0%	2,6%	0,0%	1,3%
		% of Total	0,0%	1,3%	0,0%	1,3%
	b4x	Count	0	1	0	1
		% within Product/ Brand	0,0%	1,3%	0,0%	0,6%
		% of Total	0,0%	0,6%	0,0%	0,6%
	c1x	Count	0	3	0	3
		% within Product/ Brand	0,0%	3,9%	0,0%	1,9%
		% of Total	0,0%	1,9%	0,0%	1,9%
	c1y	Count	0	0	3	3
		% within Product/ Brand	0,0%	0,0%	7,9%	1,9%
		% of Total	0,0%	0,0%	1,9%	1,9%
	c2x	Count	0	2	3	5
		% within Product/ Brand	0,0%	2,6%	7,9%	3,2%
		% of Total	0,0%	1,3%	1,9%	3,2%
	c2y	Count	0	1	4	5
		% within Product/ Brand	0,0%	1,3%	10,5%	3,2%
		% of Total	0,0%	0,6%	2,6%	3,2%
	c3x	Count	2	1	5	8
		% within Product/ Brand	5,0%	1,3%	13,2%	5,2%
		% of Total	1,3%	0,6%	3,2%	5,2%
	c3y	Count	4	3	3	10
		% within Product/ Brand	10,0%	3,9%	7,9%	6,5%
		% of Total	2,6%	1,9%	1,9%	6,5%
	c4x	Count	2	0	1	3
		% within Product/ Brand	5,0%	0,0%	2,6%	1,9%
		% of Total	1,3%	0,0%	0,6%	1,9%
c4y	Count	2	0	1	3	
	% within Product/ Brand	5,0%	0,0%	2,6%	1,9%	
	% of Total	1,3%	0,0%	0,6%	1,9%	
d1x	Count	2	9	2	13	
	% within Product/ Brand	5,0%	11,7%	5,3%	8,4%	
	% of Total	1,3%	5,8%	1,3%	8,4%	
d1y	Count	1	6	0	7	
	% within Product/ Brand	2,5%	7,8%	0,0%	4,5%	
	% of Total	0,6%	3,9%	0,0%	4,5%	
d2x	Count	5	6	0	11	
	% within Product/ Brand	12,5%	7,8%	0,0%	7,1%	
	% of Total	3,2%	3,9%	0,0%	7,1%	

Crosstabulation: By Consumers Configured Design * Product/ Brand * Gender							
Gender		Product/ Brand			Total		
		SCHAUMA	STIHL	WMF			
		d2y	Count	1	4	0	5
			% within Product/ Brand	2,5%	5,2%	0,0%	3,2%
			% of Total	0,6%	2,6%	0,0%	3,2%
		d3x	Count	2	2	0	4
			% within Product/ Brand	5,0%	2,6%	0,0%	2,6%
			% of Total	1,3%	1,3%	0,0%	2,6%
		d3y	Count	0	2	0	2
			% within Product/ Brand	0,0%	2,6%	0,0%	1,3%
			% of Total	0,0%	1,3%	0,0%	1,3%
		d4x	Count	2	5	2	9
			% within Product/ Brand	5,0%	6,5%	5,3%	5,8%
			% of Total	1,3%	3,2%	1,3%	5,8%
	Total	Count	40	77	38	155	
		% within Product/ Brand	100,0%	100,0%	100,0%	100,0%	
		% of Total	25,8%	49,7%	24,5%	100,0%	
Female	By Consumers Configured Design	a1x	Count	1	3	1	5
			% within Product/ Brand	1,7%	13,0%	1,6%	3,4%
			% of Total	0,7%	2,1%	0,7%	3,4%
		a1y	Count	2	0	5	7
			% within Product/ Brand	3,3%	0,0%	8,1%	4,8%
			% of Total	1,4%	0,0%	3,4%	4,8%
		a2x	Count	3	0	2	5
			% within Product/ Brand	5,0%	0,0%	3,2%	3,4%
			% of Total	2,1%	0,0%	1,4%	3,4%
		a2y	Count	0	1	1	2
			% within Product/ Brand	0,0%	4,3%	1,6%	1,4%
			% of Total	0,0%	0,7%	0,7%	1,4%
		a3x	Count	5	0	4	9
			% within Product/ Brand	8,3%	0,0%	6,5%	6,2%
			% of Total	3,4%	0,0%	2,8%	6,2%
		a3y	Count	1	2	7	10
			% within Product/ Brand	1,7%	8,7%	11,3%	6,9%
			% of Total	0,7%	1,4%	4,8%	6,9%
		a4x	Count	2	0	1	3
			% within Product/ Brand	3,3%	0,0%	1,6%	2,1%
			% of Total	1,4%	0,0%	0,7%	2,1%
		a4y	Count	1	0	4	5
			% within Product/ Brand	1,7%	0,0%	6,5%	3,4%
			% of Total	0,7%	0,0%	2,8%	3,4%
		b1x	Count	0	1	0	1

Crosstabulation: By Consumers Configured Design * Product/ Brand * Gender						
Gender		Product/ Brand			Total	
		SCHAUMA	STIHL	WMF		
		% within Product/ Brand	0,0%	4,3%	0,0%	0,7%
		% of Total	0,0%	0,7%	0,0%	0,7%
	b1y	Count	1	0	0	1
		% within Product/ Brand	1,7%	0,0%	0,0%	0,7%
		% of Total	0,7%	0,0%	0,0%	0,7%
	b2x	Count	0	2	0	2
		% within Product/ Brand	0,0%	8,7%	0,0%	1,4%
		% of Total	0,0%	1,4%	0,0%	1,4%
	b2y	Count	1	1	0	2
		% within Product/ Brand	1,7%	4,3%	0,0%	1,4%
		% of Total	0,7%	0,7%	0,0%	1,4%
	b4x	Count	0	1	1	2
		% within Product/ Brand	0,0%	4,3%	1,6%	1,4%
		% of Total	0,0%	0,7%	0,7%	1,4%
	c1x	Count	0	2	1	3
		% within Product/ Brand	0,0%	8,7%	1,6%	2,1%
		% of Total	0,0%	1,4%	0,7%	2,1%
	c1y	Count	1	0	3	4
		% within Product/ Brand	1,7%	0,0%	4,8%	2,8%
		% of Total	0,7%	0,0%	2,1%	2,8%
	c2x	Count	0	0	10	10
		% within Product/ Brand	0,0%	0,0%	16,1%	6,9%
		% of Total	0,0%	0,0%	6,9%	6,9%
	c2y	Count	1	0	3	4
		% within Product/ Brand	1,7%	0,0%	4,8%	2,8%
		% of Total	0,7%	0,0%	2,1%	2,8%
	c3x	Count	0	2	3	5
		% within Product/ Brand	0,0%	8,7%	4,8%	3,4%
		% of Total	0,0%	1,4%	2,1%	3,4%
	c3y	Count	0	0	7	7
		% within Product/ Brand	0,0%	0,0%	11,3%	4,8%
		% of Total	0,0%	0,0%	4,8%	4,8%
	c4x	Count	1	0	3	4
		% within Product/ Brand	1,7%	0,0%	4,8%	2,8%
		% of Total	0,7%	0,0%	2,1%	2,8%
	d1x	Count	6	1	0	7
		% within Product/ Brand	10,0%	4,3%	0,0%	4,8%
		% of Total	4,1%	0,7%	0,0%	4,8%
	d1y	Count	1	2	0	3
		% within Product/ Brand	1,7%	8,7%	0,0%	2,1%

Crosstabulation: By Consumers Configured Design * Product/ Brand * Gender									
Gender		Product/ Brand			Total				
		SCHAUMA	STIHL	WMF					
			% of Total	0,7%	1,4%	0,0%	2,1%		
			d2x	Count	20	1	2	23	
				% within Product/ Brand	33,3%	4,3%	3,2%	15,9%	
		% of Total		13,8%	0,7%	1,4%	15,9%		
		d2y	Count	4	1	1	6		
			% within Product/ Brand	6,7%	4,3%	1,6%	4,1%		
			% of Total	2,8%	0,7%	0,7%	4,1%		
		d3x	Count	2	0	1	3		
			% within Product/ Brand	3,3%	0,0%	1,6%	2,1%		
			% of Total	1,4%	0,0%	0,7%	2,1%		
		d3y	Count	0	1	1	2		
			% within Product/ Brand	0,0%	4,3%	1,6%	1,4%		
			% of Total	0,0%	0,7%	0,7%	1,4%		
		d4x	Count	2	0	0	2		
			% within Product/ Brand	3,3%	0,0%	0,0%	1,4%		
			% of Total	1,4%	0,0%	0,0%	1,4%		
		d4y	Count	5	2	1	8		
			% within Product/ Brand	8,3%	8,7%	1,6%	5,5%		
			% of Total	3,4%	1,4%	0,7%	5,5%		
		Total	Count	60	23	62	145		
			% within Product/ Brand	100,0%	100,0%	100,0%	100,0%		
			% of Total	41,4%	15,9%	42,8%	100,0%		
		Total	By Consumers Configured Design	a1x	Count	5	12	1	18
					% within Product/ Brand	5,0%	12,0%	1,0%	6,0%
					% of Total	1,7%	4,0%	0,3%	6,0%
				a1y	Count	3	2	6	11
					% within Product/ Brand	3,0%	2,0%	6,0%	3,7%
					% of Total	1,0%	0,7%	2,0%	3,7%
				a2x	Count	4	5	3	12
					% within Product/ Brand	4,0%	5,0%	3,0%	4,0%
% of Total	1,3%				1,7%	1,0%	4,0%		
a2y	Count			0	3	1	4		
	% within Product/ Brand			0,0%	3,0%	1,0%	1,3%		
	% of Total			0,0%	1,0%	0,3%	1,3%		
a3x	Count			13	1	7	21		
	% within Product/ Brand			13,0%	1,0%	7,0%	7,0%		
	% of Total			4,3%	0,3%	2,3%	7,0%		
a3y	Count			2	2	11	15		
	% within Product/ Brand			2,0%	2,0%	11,0%	5,0%		
	% of Total			0,7%	0,7%	3,7%	5,0%		

Crosstabulation: By Consumers Configured Design * Product/ Brand * Gender						
Gender		Product/ Brand			Total	
		SCHAUMA	STIHL	WMF		
	a4x	Count	3	7	3	13
		% within Product/ Brand	3,0%	7,0%	3,0%	4,3%
		% of Total	1,0%	2,3%	1,0%	4,3%
	a4y	Count	1	1	7	9
		% within Product/ Brand	1,0%	1,0%	7,0%	3,0%
		% of Total	0,3%	0,3%	2,3%	3,0%
	b1x	Count	0	2	0	2
		% within Product/ Brand	0,0%	2,0%	0,0%	0,7%
		% of Total	0,0%	0,7%	0,0%	0,7%
	b1y	Count	2	0	0	2
		% within Product/ Brand	2,0%	0,0%	0,0%	0,7%
		% of Total	0,7%	0,0%	0,0%	0,7%
	b2x	Count	0	3	0	3
		% within Product/ Brand	0,0%	3,0%	0,0%	1,0%
		% of Total	0,0%	1,0%	0,0%	1,0%
	b2y	Count	1	1	0	2
		% within Product/ Brand	1,0%	1,0%	0,0%	0,7%
		% of Total	0,3%	0,3%	0,0%	0,7%
	b3x	Count	0	1	0	1
		% within Product/ Brand	0,0%	1,0%	0,0%	0,3%
		% of Total	0,0%	0,3%	0,0%	0,3%
	b3y	Count	0	2	0	2
		% within Product/ Brand	0,0%	2,0%	0,0%	0,7%
		% of Total	0,0%	0,7%	0,0%	0,7%
	b4x	Count	0	2	1	3
		% within Product/ Brand	0,0%	2,0%	1,0%	1,0%
		% of Total	0,0%	0,7%	0,3%	1,0%
	c1x	Count	0	5	1	6
		% within Product/ Brand	0,0%	5,0%	1,0%	2,0%
		% of Total	0,0%	1,7%	0,3%	2,0%
c1y	Count	1	0	6	7	
	% within Product/ Brand	1,0%	0,0%	6,0%	2,3%	
	% of Total	0,3%	0,0%	2,0%	2,3%	
c2x	Count	0	2	13	15	
	% within Product/ Brand	0,0%	2,0%	13,0%	5,0%	
	% of Total	0,0%	0,7%	4,3%	5,0%	
c2y	Count	1	1	7	9	
	% within Product/ Brand	1,0%	1,0%	7,0%	3,0%	
	% of Total	0,3%	0,3%	2,3%	3,0%	
c3x	Count	2	3	8	13	

Crosstabulation: By Consumers Configured Design * Product/ Brand * Gender						
Gender			Product/ Brand			Total
			SCHAUMA	STIHL	WMF	
					% within Product/ Brand	2,0%
		% of Total	0,7%	1,0%	2,7%	4,3%
	c3y	Count	4	3	10	17
		% within Product/ Brand	4,0%	3,0%	10,0%	5,7%
		% of Total	1,3%	1,0%	3,3%	5,7%
	c4x	Count	3	0	4	7
		% within Product/ Brand	3,0%	0,0%	4,0%	2,3%
		% of Total	1,0%	0,0%	1,3%	2,3%
	c4y	Count	2	0	1	3
		% within Product/ Brand	2,0%	0,0%	1,0%	1,0%
		% of Total	0,7%	0,0%	0,3%	1,0%
	d1x	Count	8	10	2	20
		% within Product/ Brand	8,0%	10,0%	2,0%	6,7%
		% of Total	2,7%	3,3%	0,7%	6,7%
	d1y	Count	2	8	0	10
		% within Product/ Brand	2,0%	8,0%	0,0%	3,3%
		% of Total	0,7%	2,7%	0,0%	3,3%
	d2x	Count	25	7	2	34
		% within Product/ Brand	25,0%	7,0%	2,0%	11,3%
		% of Total	8,3%	2,3%	0,7%	11,3%
	d2y	Count	5	5	1	11
		% within Product/ Brand	5,0%	5,0%	1,0%	3,7%
		% of Total	1,7%	1,7%	0,3%	3,7%
	d3x	Count	4	2	1	7
		% within Product/ Brand	4,0%	2,0%	1,0%	2,3%
		% of Total	1,3%	0,7%	0,3%	2,3%
	d3y	Count	0	3	1	4
		% within Product/ Brand	0,0%	3,0%	1,0%	1,3%
		% of Total	0,0%	1,0%	0,3%	1,3%
	d4x	Count	4	5	2	11
		% within Product/ Brand	4,0%	5,0%	2,0%	3,7%
		% of Total	1,3%	1,7%	0,7%	3,7%
	d4y	Count	5	2	1	8
		% within Product/ Brand	5,0%	2,0%	1,0%	2,7%
		% of Total	1,7%	0,7%	0,3%	2,7%
	Total	Count	100	100	100	300
		% within Product/ Brand	100,0%	100,0%	100,0%	100,0%
		% of Total	33,3%	33,3%	33,3%	100,0%

CONSUMERS WHO USE SUCH PRODUCTS OF THIS BRAND

Appendix Table 15: All Proband's who use such Products of this Brand

All Proband's who use such Products of this Brand		Classification	Frequency	Percent	Standard Deviation and Mean of all Proband's who use such Products of this Brand		
Valid	Don't use	0	138	46%	N	Valid	300
	Use	1	162	54%		Missing	0
	Total		300	100,0%		Mean	,54
						Std. Deviation	,499

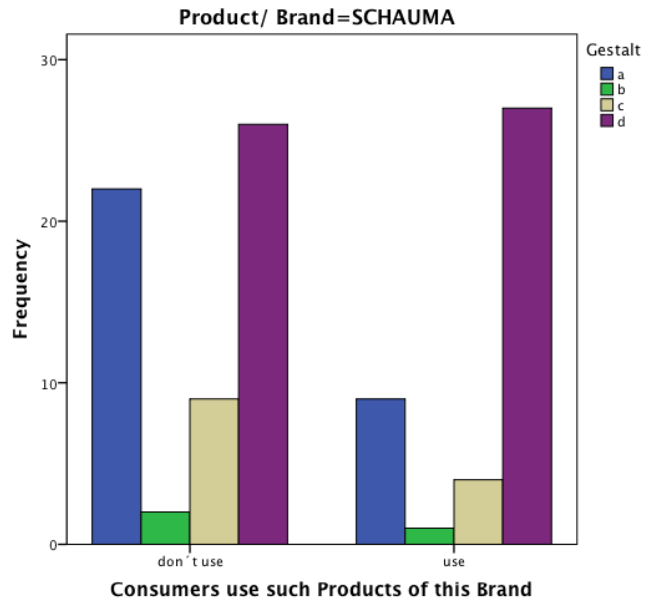
PREFERRED PRODUCT/ BRAND SPECIFIC GESTALT ACCORDING TO CONSUMERS WHO USE SUCH PRODUCTS OF THIS BRAND

Appendix Table 16: Crosstabulation: Consumers use such products of this brand * Gestalt * Product/ Brand

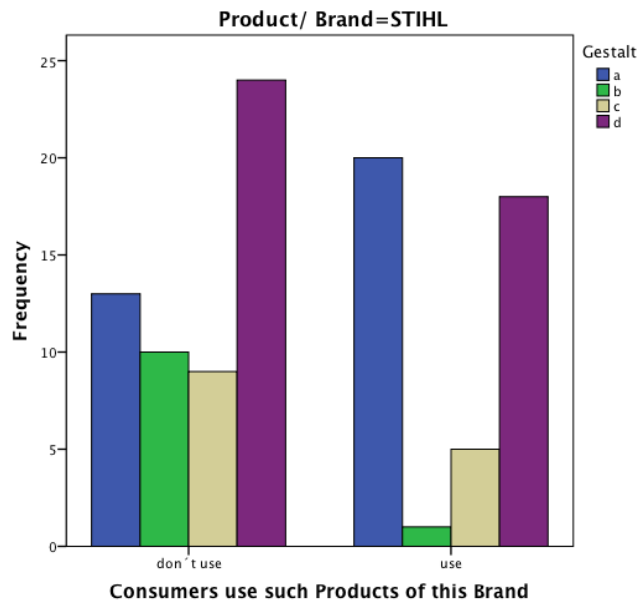
Crosstabulation: Consumers use such Products of this Brand * Gestalt * Product/ Brand								
Product/ Brand			Gestalt				Total	
			a	b	c	d		
SCHAUMA	Consumers use such Products of this Brand	don't use	Count	22	2	9	26	59
			% within Consumers use such Products of this Brand	37,3%	3,4%	15,3%	44,1%	100,0%
			% within Gestalt	71,0%	66,7%	69,2%	49,1%	59,0%
		use	Count	9	1	4	27	41
			% within Consumers use such Products of this Brand	22,0%	2,4%	9,8%	65,9%	100,0%
			% within Gestalt	29,0%	33,3%	30,8%	50,9%	41,0%
	Total	Count	31	3	13	53	100	
		% within Consumers use such Products of this Brand	31,0%	3,0%	13,0%	53,0%	100,0%	
		% within Gestalt	100,0%	100,0%	100,0%	100,0%	100,0%	
STIHL	Consumers use such Products of this Brand	don't use	Count	13	10	9	24	56
			% within Consumers use such Products of this Brand	23,2%	17,9%	16,1%	42,9%	100,0%
			% within Gestalt	39,4%	90,9%	64,3%	57,1%	56,0%
		use	Count	20	1	5	18	44
			% within Consumers use such Products of this Brand	45,5%	2,3%	11,4%	40,9%	100,0%
			% within Gestalt	60,6%	9,1%	35,7%	42,9%	44,0%
	Total	Count	33	11	14	42	100	
		% within Consumers	33,0%	11,0%	14,0%	42,0%	100,0%	
		% within Gestalt	100,0%	100,0%	100,0%	100,0%	100,0%	

Crosstabulation: Consumers use such Products of this Brand * Gestalt * Product/ Brand								
Product/ Brand			Gestalt				Total	
			a	b	c	d		
			use such Products of this Brand					
			% within Gestalt	100,0%	100,0%	100,0%	100,0%	100,0%
WMF	Consumers use such Products of this Brand	don't use	Count	11	0	10	2	23
			% within Consumers use such Products of this Brand	47,8%	0,0%	43,5%	8,7%	100,0%
			% within Gestalt	28,2%	0,0%	20,0%	20,0%	23,0%
		use	Count	28	1	40	8	77
			% within Consumers use such Products of this Brand	36,4%	1,3%	51,9%	10,4%	100,0%
			% within Gestalt	71,8%	100,0%	80,0%	80,0%	77,0%
	Total		Count	39	1	50	10	100
			% within Consumers use such Products of this Brand	39,0%	1,0%	50,0%	10,0%	100,0%
			% within Gestalt	100,0%	100,0%	100,0%	100,0%	100,0%
Total	Consumers use such Products of this Brand	don't use	Count	46	12	28	52	138
			% within Consumers use such Products of this Brand	33,3%	8,7%	20,3%	37,7%	100,0%
			% within Gestalt	44,7%	80,0%	36,4%	49,5%	46,0%
		use	Count	57	3	49	53	162
			% within Consumers use such Products of this Brand	35,2%	1,9%	30,2%	32,7%	100,0%
			% within Gestalt	55,3%	20,0%	63,6%	50,5%	54,0%
	Total		Count	103	15	77	105	300
			% within Consumers use such Products of this Brand	34,3%	5,0%	25,7%	35,0%	100,0%
			% within Gestalt	100,0%	100,0%	100,0%	100,0%	100,0%

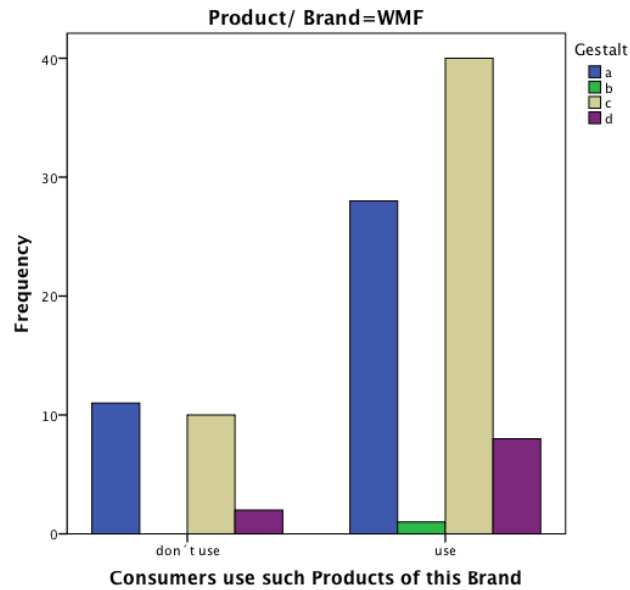
Appendix Chart 10: Consumers use such Products of SCHAUMA * preferred Gestalt



Appendix Chart 11: Consumers use such Products of STIHL * preferred Gestalt



Appendix Chart 12: Consumers use such Products of WMF * preferred Gestalt



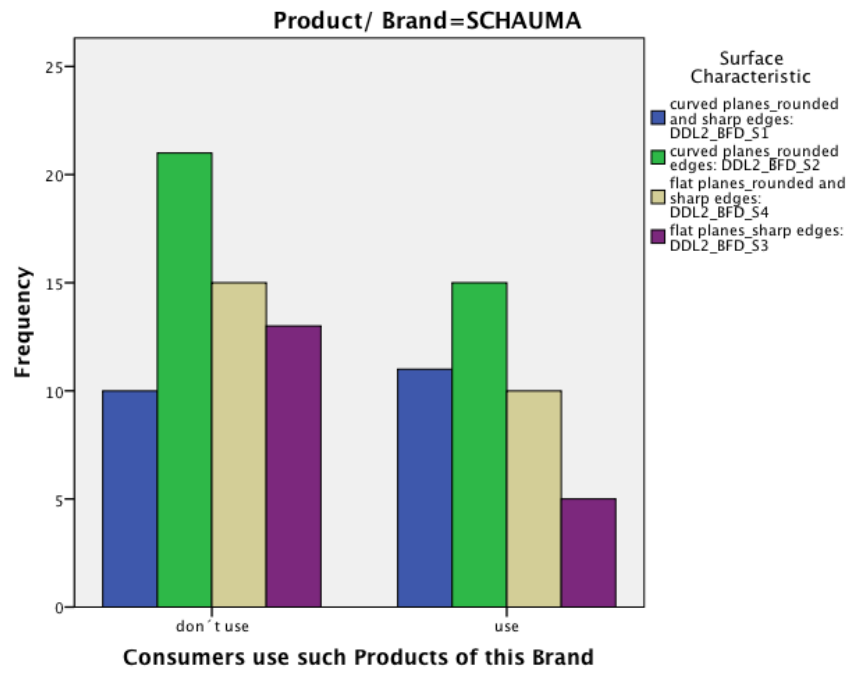
PREFERRED PRODUCT/ BRAND SPECIFIC SURFACE CHARACTERISTIC ACCORDING TO CONSUMERS WHO USE SUCH PRODUCTS OF THIS BRAND

Appendix Table 17: Crosstabulation: Consumers use such Products of this Brand * Surface Characteristic * Product/ Brand

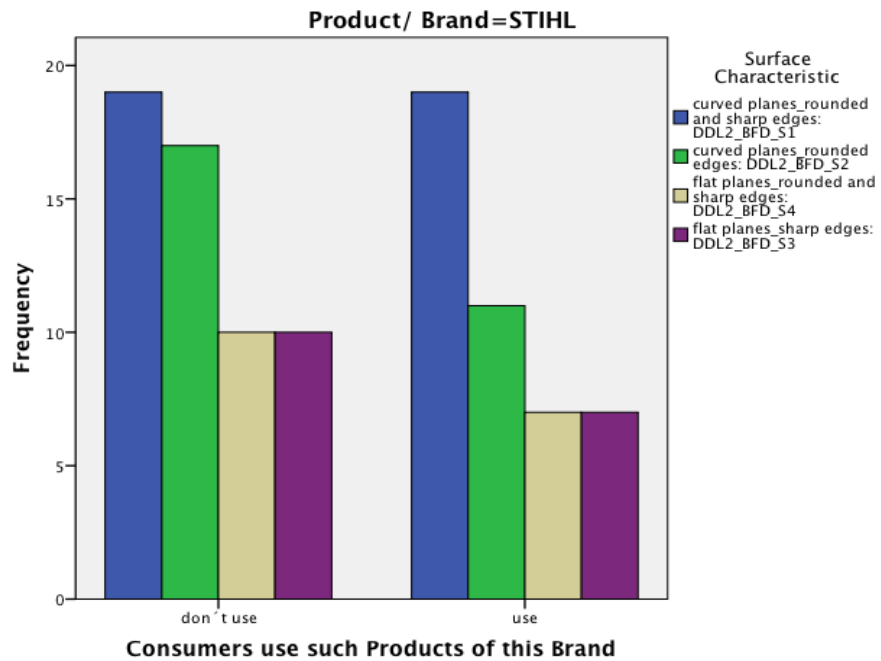
Crosstabulation: Consumers use such Products of this Brand * Surface Characteristic * Product/ Brand								
Product/ Brand				Surface Characteristic				Total
				curved planes_ rounded and sharp edges: DDL2_BFD_S1	curved planes_ rounded edges: DDL2_BFD_S2	flat planes_ rounded and sharp edges: DDL2_BFD_S4	flat planes_ sharp edges: DDL2_BFD_S3	
SCHAUMA	Consumers use such Products of this Brand	don't use	Count	10	21	15	13	59
			% within Consumers use such Products of this Brand	16,9%	35,6%	25,4%	22,0%	100,0%
		use	Count	11	15	10	5	41
			% within Consumers use such Products of this Brand	26,8%	36,6%	24,4%	12,2%	100,0%
	Total	Count	21	36	25	18	100	
		% within Consumers use such Products of this Brand	21,0%	36,0%	25,0%	18,0%	100,0%	
STIHL	Consumers	don't	Count	19	17	10	10	56

Crosstabulation: Consumers use such Products of this Brand * Surface Characteristic * Product/ Brand								
Product/ Brand				Surface Characteristic				Total
				curved planes_rounded and sharp edges: DDL2_BFD_S1	curved planes_rounded edges: DDL2_BFD_S2	flat planes_rounded and sharp edges: DDL2_BFD_S4	flat planes_sharp edges: DDL2_BFD_S3	
	use such Products of this Brand	use	% within Consumers use such Products of this Brand	33,9%	30,4%	17,9%	17,9%	100,0%
		use	Count	19	11	7	7	44
			% within Consumers use such Products of this Brand	43,2%	25,0%	15,9%	15,9%	100,0%
	Total		Count	38	28	17	17	100
			% within Consumers use such Products of this Brand	38,0%	28,0%	17,0%	17,0%	100,0%
	WMF	Consumers use such Products of this Brand	don't use	Count	2	9	8	4
			% within Consumers use such Products of this Brand	8,7%	39,1%	34,8%	17,4%	100,0%
		use	Count	14	18	30	15	77
			% within Consumers use such Products of this Brand	18,2%	23,4%	39,0%	19,5%	100,0%
Total			Count	16	27	38	19	100
			% within Consumers use such Products of this Brand	16,0%	27,0%	38,0%	19,0%	100,0%
Total	Consumers use such Products of this Brand	don't use	Count	31	47	33	27	138
			% within Consumers use such Products of this Brand	22,5%	34,1%	23,9%	19,6%	100,0%
		use	Count	44	44	47	27	162
			% within Consumers use such Products of this Brand	27,2%	27,2%	29,0%	16,7%	100,0%
	Total		Count	75	91	80	54	300
			% within Consumers use such Products of this Brand	25,0%	30,3%	26,7%	18,0%	100,0%

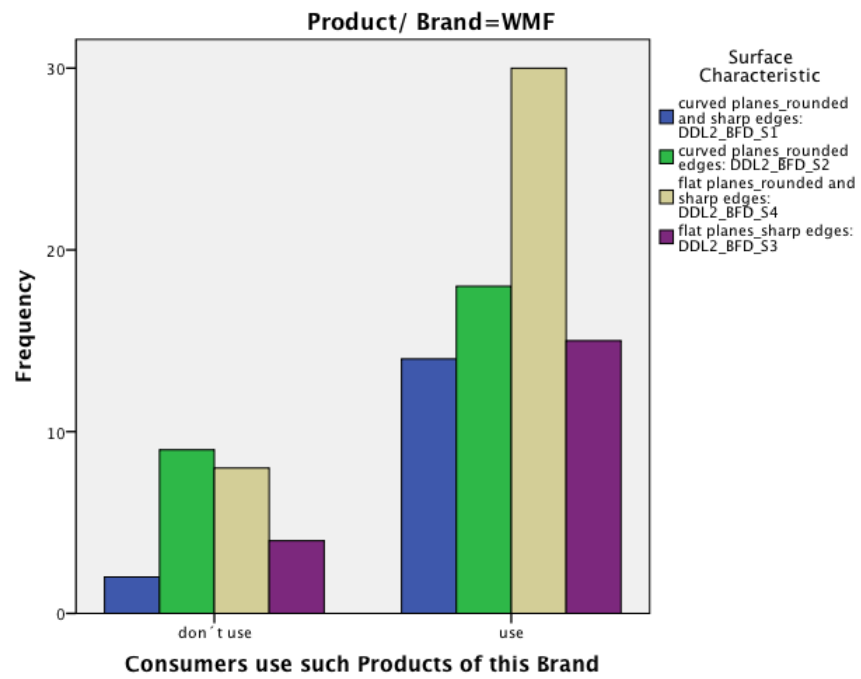
Appendix Chart 13: Consumers use such Products of SCHAUMA * preferred Surface Characteristic



Appendix Chart 14: Consumers use such Products of STIHL * preferred Surface Characteristic



Appendix Chart 15: Crosstabulation: Consumers use such Products of WMF * preferred Surface Characteristic



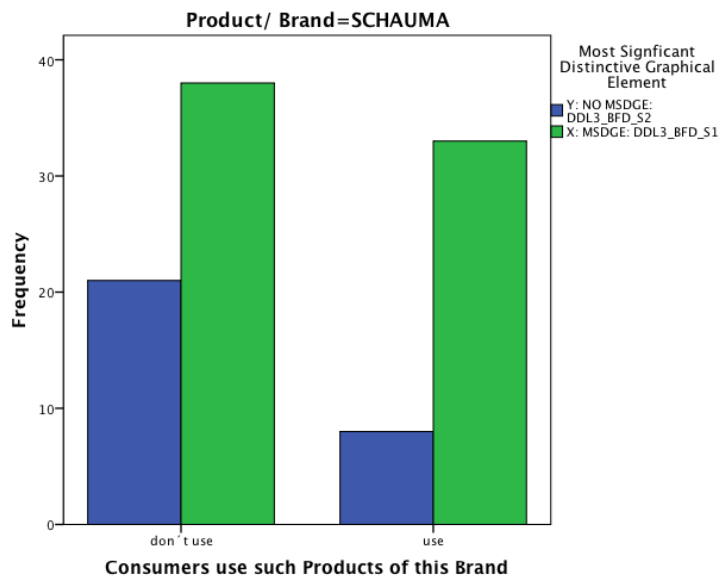
PREFERRED PRODUCT/ BRAND SPECIFIC MSDGE ACCORDING TO CONSUMERS WHO USE SUCH PRODUCTS OF THIS BRAND

Appendix Table 18: Crosstabulation: Consumers use such Products of this Brand * Most Significant Distinctive Graphical Element * Product/ Brand

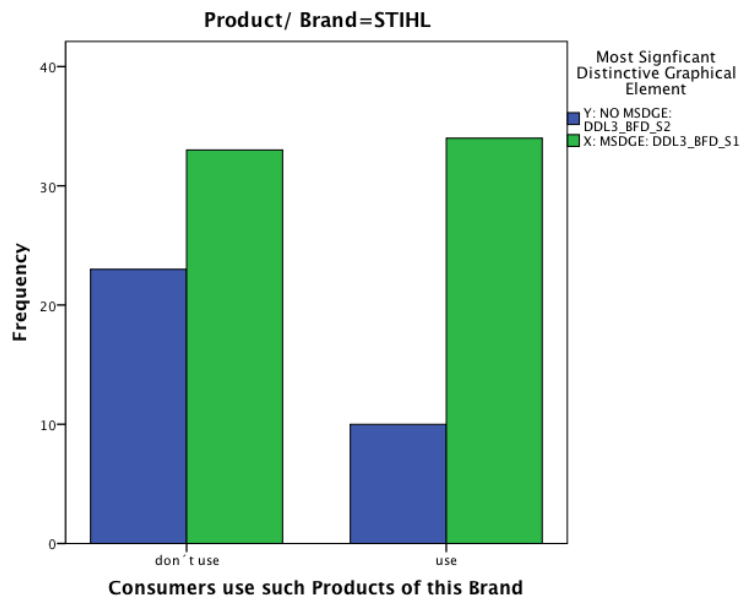
Crosstabulation: Consumers use such Products of this Brand * Most Significant Distinctive Graphical Element * Product/ Brand						
Product/ Brand				Most Significant Distinctive Graphical Element		Total
				Y: NO MSDGE: DDL3_BFD_S2	X: MSDGE: DDL3_BFD_S1	
SCHAUMA	Consumers use such Products of this Brand	don't use	Count	21	38	59
			% within Consumers use such Products of this Brand	35,6%	64,4%	100,0%
		use	Count	8	33	41
			% within Consumers use such Products of this Brand	19,5%	80,5%	100,0%
	Total	Count	29	71	100	
		% within Consumers use such Products of this Brand	29,0%	71,0%	100,0%	
STIHL	Consumers use such Products of this Brand	don't use	Count	23	33	56
			% within Consumers use such Products of this Brand	41,1%	58,9%	100,0%
		use	Count	10	34	44
			% within Consumers use such Products of this Brand	22,7%	77,3%	100,0%
	Total	Count	33	67	100	
		% within Consumers use such Products of this Brand	33,0%	67,0%	100,0%	
WMF	Consumers use such Products of this Brand	don't use	Count	11	12	23
			% within Consumers use such Products of this Brand	47,8%	52,2%	100,0%
		use	Count	41	36	77
			% within Consumers use such Products of this Brand	53,2%	46,8%	100,0%
	Total	Count	52	48	100	
		% within Consumers use such Products of this Brand	52,0%	48,0%	100,0%	
Total	Consumers use such Products of this Brand	don't use	Count	55	83	138
			% within Consumers use such Products of this Brand	39,9%	60,1%	100,0%
	use	Count	59	103	162	

			% within Consumers use such Products of this Brand	36,4%	63,6%	100,0%
Total			Count	114	186	300
			% within Consumers use such Products of this Brand	38,0%	62,0%	100,0%

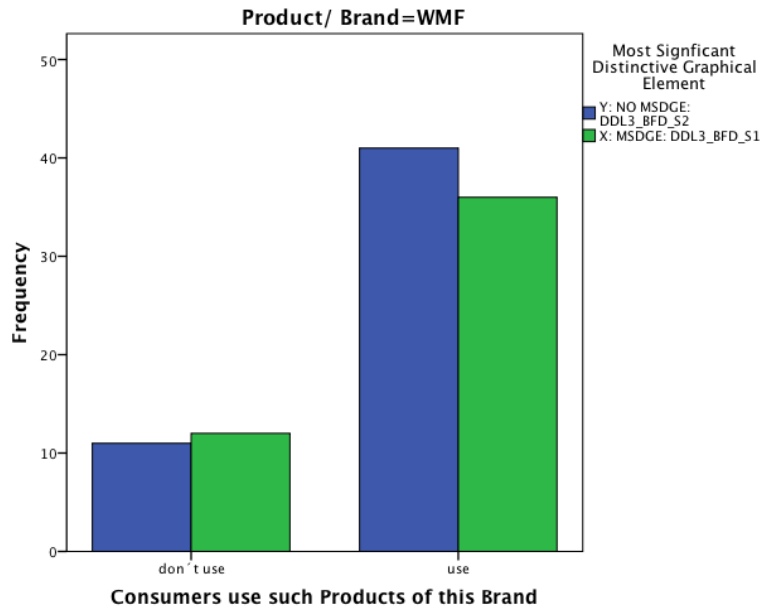
Appendix Chart 16: Consumers use such Products of SCHAUMA * choice of MSDGE



Appendix Chart 17: Consumers use such Products of STIHL * choice of MSDGE



Appendix Chart 18: Consumers use such Products of SCHAUMA * choice of MSDGE



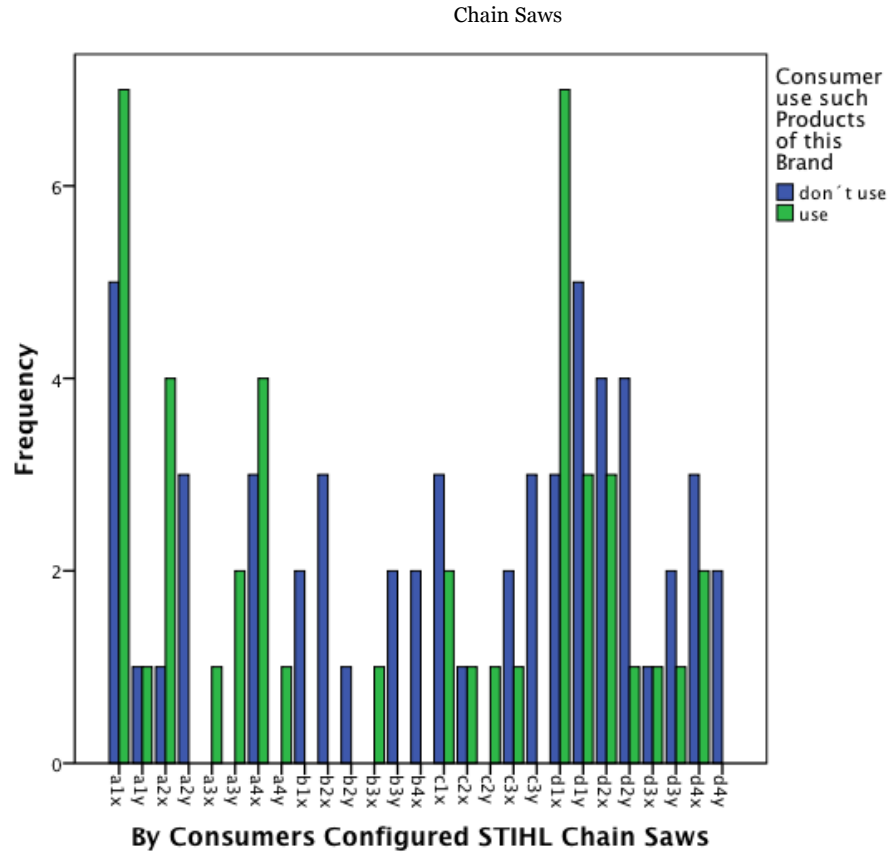
**PREFERRED PRODUCT/ BRANDS SPECIFIC CONFIGURED DESIGN ACCORDING TO
CONSUMERS WHO USE SUCH PRODUCTS OF THIS BRAND**

Appendix Table 19: Crosstabulation: By Consumers Configured STIHL Chain Saws * Consumer use such Products of this
Brand

Crosstabulation: By Consumers Configured STIHL Chain Saws * Consumer use such Products of this Brand					
			Consumer use such Products of this Brand		Total
			don't use	use	
By Consumers Configured Design	a1x	Count	5	7	12
		% within Consumer use such Products of this Brand	8,9%	15,9%	12,0%
	a1y	Count	1	1	2
		% within Consumer use such Products of this Brand	1,8%	2,3%	2,0%
	a2x	Count	1	4	5
		% within Consumer use such Products of this Brand	1,8%	9,1%	5,0%
	a2y	Count	3	0	3
		% within Consumer use such Products of this Brand	5,4%	0,0%	3,0%
	a3x	Count	0	1	1
		% within Consumer use such Products of this Brand	0,0%	2,3%	1,0%
	a3y	Count	0	2	2
		% within Consumer use such Products of this Brand	0,0%	4,5%	2,0%
	a4x	Count	3	4	7
		% within Consumer use such Products of this Brand	5,4%	9,1%	7,0%
	a4y	Count	0	1	1
		% within Consumer use such Products of this Brand	0,0%	2,3%	1,0%
	b1x	Count	2	0	2
		% within Consumer use such Products of this Brand	3,6%	0,0%	2,0%
	b2x	Count	3	0	3
		% within Consumer use such Products of this Brand	5,4%	0,0%	3,0%
	b2y	Count	1	0	1
		% within Consumer use such Products of this Brand	1,8%	0,0%	1,0%
	b3x	Count	0	1	1
		% within Consumer use such Products of this Brand	0,0%	2,3%	1,0%
b3y	Count	2	0	2	
	% within Consumer use such Products of this Brand	3,6%	0,0%	2,0%	

	Brand			
b4x	Count	2	0	2
	% within Consumer use such Products of this Brand	3,6%	0,0%	2,0%
c1x	Count	3	2	5
	% within Consumer use such Products of this Brand	5,4%	4,5%	5,0%
c2x	Count	1	1	2
	% within Consumer use such Products of this Brand	1,8%	2,3%	2,0%
c2y	Count	0	1	1
	% within Consumer use such Products of this Brand	0,0%	2,3%	1,0%
c3x	Count	2	1	3
	% within Consumer use such Products of this Brand	3,6%	2,3%	3,0%
c3y	Count	3	0	3
	% within Consumer use such Products of this Brand	5,4%	0,0%	3,0%
d1x	Count	3	7	10
	% within Consumer use such Products of this Brand	5,4%	15,9%	10,0%
d1y	Count	5	3	8
	% within Consumer use such Products of this Brand	8,9%	6,8%	8,0%
d2x	Count	4	3	7
	% within Consumer use such Products of this Brand	7,1%	6,8%	7,0%
d2y	Count	4	1	5
	% within Consumer use such Products of this Brand	7,1%	2,3%	5,0%
d3x	Count	1	1	2
	% within Consumer use such Products of this Brand	1,8%	2,3%	2,0%
d3y	Count	2	1	3
	% within Consumer use such Products of this Brand	3,6%	2,3%	3,0%
d4x	Count	3	2	5
	% within Consumer use such Products of this Brand	5,4%	4,5%	5,0%
d4y	Count	2	0	2
	% within Consumer use such Products of this Brand	3,6%	0,0%	2,0%
Total	Count	56	44	100
	% within Consumer use such Products of this Brand	100,0%	100,0%	100,0%

Appendix Chart 19: Preferred Design Configurations of STIHL Chain Saws according to Consumers who use STIHL

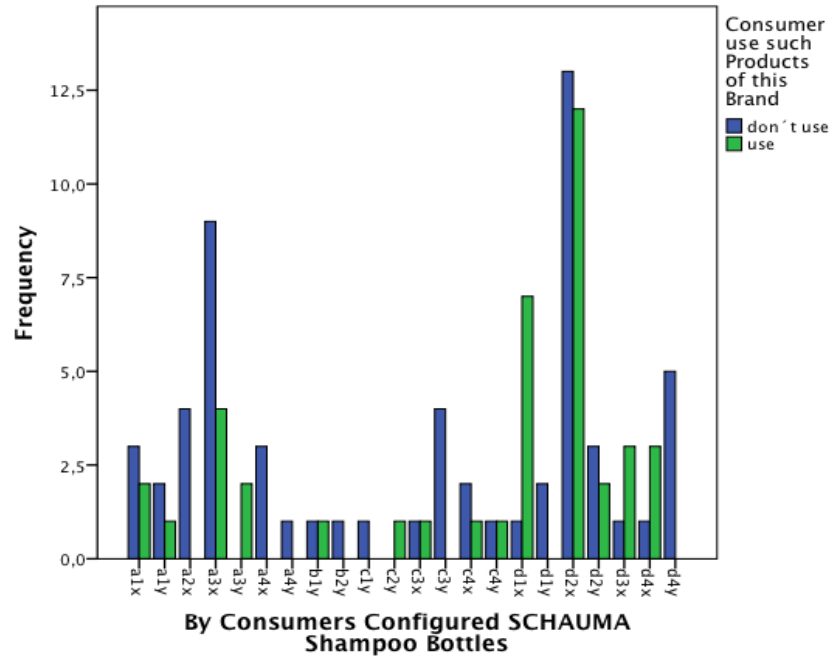


Appendix Table 20: Crosstabulation: By Consumers Configured SCHAUMA Shampoo Bottles * Consumer use such Products of this Brand

Crosstabulation: By Consumers Configured SCHAUMA Shampoo Bottles * Consumer use such Products of this Brand					
		Consumer use such Products of this Brand		Total	
		don't use	use		
By Consumers Configured Design	a1x	Count	3	2	5
		% within Consumer use such Products of this Brand	5,1%	4,9%	5,0%
	a1y	Count	2	1	3
		% within Consumer use such Products of this Brand	3,4%	2,4%	3,0%
	a2x	Count	4	0	4
		% within Consumer use such Products of this Brand	6,8%	0,0%	4,0%
	a3x	Count	9	4	13
		% within Consumer use such Products of this Brand	15,3%	9,8%	13,0%
	a3y	Count	0	2	2
		% within Consumer use such Products of this Brand	0,0%	4,9%	2,0%
	a4x	Count	3	0	3
		% within Consumer use such Products of this Brand	5,1%	0,0%	3,0%
	a4y	Count	1	0	1
		% within Consumer use such Products of this Brand	1,7%	0,0%	1,0%
	b1y	Count	1	1	2
		% within Consumer use such Products of this Brand	1,7%	2,4%	2,0%
	b2y	Count	1	0	1
		% within Consumer use such Products of this Brand	1,7%	0,0%	1,0%
	c1y	Count	1	0	1
		% within Consumer use such Products of this Brand	1,7%	0,0%	1,0%
	c2y	Count	0	1	1
		% within Consumer use such Products of this Brand	0,0%	2,4%	1,0%
	c3x	Count	1	1	2
		% within Consumer use such Products of this Brand	1,7%	2,4%	2,0%
	c3y	Count	4	0	4
		% within Consumer use such Products of this Brand	6,8%	0,0%	4,0%
	c4x	Count	2	1	3
		% within Consumer use such Products of this Brand	3,4%	2,4%	3,0%

	c4y	Count	1	1	2	
		% within Consumer use such Products of this Brand	1,7%	2,4%	2,0%	
	d1x	Count	1	7	8	
		% within Consumer use such Products of this Brand	1,7%	17,1%	8,0%	
	d1y	Count	2	0	2	
		% within Consumer use such Products of this Brand	3,4%	0,0%	2,0%	
	d2x	Count	13	12	25	
		% within Consumer use such Products of this Brand	22,0%	29,3%	25,0%	
	d2y	Count	3	2	5	
		% within Consumer use such Products of this Brand	5,1%	4,9%	5,0%	
	d3x	Count	1	3	4	
		% within Consumer use such Products of this Brand	1,7%	7,3%	4,0%	
	d4x	Count	1	3	4	
		% within Consumer use such Products of this Brand	1,7%	7,3%	4,0%	
	d4y	Count	5	0	5	
		% within Consumer use such Products of this Brand	8,5%	0,0%	5,0%	
	Total		Count	59	41	100
			% within Consumer use such Products of this Brand	100,0%	100,0%	100,0%

Appendix Chart 20: Preferred Design Configurations of SCHAUMA Shampoo Bottles according to Consumers who use SCHAUMA Shampoo Bottles



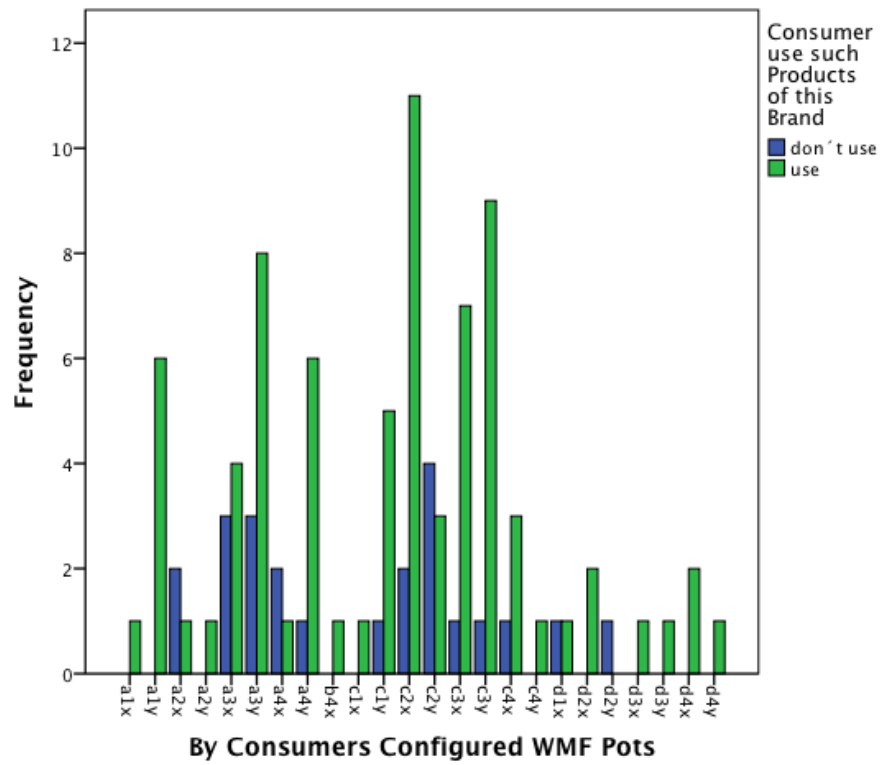
Appendix Table 21: Crosstabulation: By Consumers Configured WMF Saucepans * Consumer use such Products of this Brand

Crosstabulation: By Consumers Configured WMF Saucepans * Consumer use such Products of this Brand					
		Consumer use such Products of this Brand		Total	
		don't use	use		
By Consumers Configured Design	a1x	Count	0	1	1
		% within Consumer use such Products of this Brand	0,0%	1,3%	1,0%
	a1y	Count	0	6	6
		% within Consumer use such Products of this Brand	0,0%	7,8%	6,0%
	a2x	Count	2	1	3
		% within Consumer use such Products of this Brand	8,7%	1,3%	3,0%
	a2y	Count	0	1	1
		% within Consumer use such Products of this Brand	0,0%	1,3%	1,0%
	a3x	Count	3	4	7
		% within Consumer use such Products of this Brand	13,0%	5,2%	7,0%
	a3y	Count	3	8	11
		% within Consumer use such Products of this Brand	13,0%	10,4%	11,0%
	a4x	Count	2	1	3
		% within Consumer use such Products of this Brand	8,7%	1,3%	3,0%
	a4y	Count	1	6	7
		% within Consumer use such Products of this Brand	4,3%	7,8%	7,0%
	b4x	Count	0	1	1
		% within Consumer use such Products of this Brand	0,0%	1,3%	1,0%
	c1x	Count	0	1	1
		% within Consumer use such Products of this Brand	0,0%	1,3%	1,0%
	c1y	Count	1	5	6
		% within Consumer use such Products of this Brand	4,3%	6,5%	6,0%
	c2x	Count	2	11	13
		% within Consumer use such Products of this Brand	8,7%	14,3%	13,0%
c2y	Count	4	3	7	
	% within Consumer use such Products of this Brand	17,4%	3,9%	7,0%	
c3x	Count	1	7	8	
	% within Consumer use such Products of this Brand	4,3%	9,1%	8,0%	

c3y	Count	1	9	10
	% within Consumer use such Products of this Brand	4,3%	11,7%	10,0%
c4x	Count	1	3	4
	% within Consumer use such Products of this Brand	4,3%	3,9%	4,0%
c4y	Count	0	1	1
	% within Consumer use such Products of this Brand	0,0%	1,3%	1,0%
d1x	Count	1	1	2
	% within Consumer use such Products of this Brand	4,3%	1,3%	2,0%
d2x	Count	0	2	2
	% within Consumer use such Products of this Brand	0,0%	2,6%	2,0%
d2y	Count	1	0	1
	% within Consumer use such Products of this Brand	4,3%	0,0%	1,0%
d3x	Count	0	1	1
	% within Consumer use such Products of this Brand	0,0%	1,3%	1,0%
d3y	Count	0	1	1
	% within Consumer use such Products of this Brand	0,0%	1,3%	1,0%
d4x	Count	0	2	2
	% within Consumer use such Products of this Brand	0,0%	2,6%	2,0%
d4y	Count	0	1	1
	% within Consumer use such Products of this Brand	0,0%	1,3%	1,0%
Total	Count	23	77	100
	% within Consumer use such Products of this Brand	100,0%	100,0%	100,0%

Appendix Chart 21: Preferred Design Configurations of WMF Saucepans according to Consumers who use WMF

Saucepans

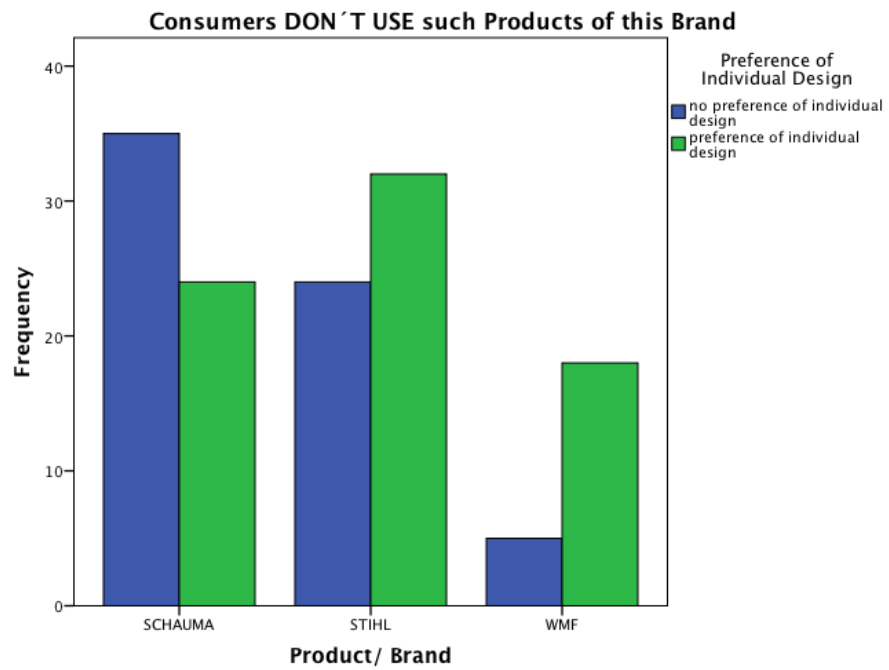


PREFERRED INDIVIDUAL DESIGN ACCORDING TO CONSUMERS WHO USE SUCH PRODUCTS OF THIS BRAND

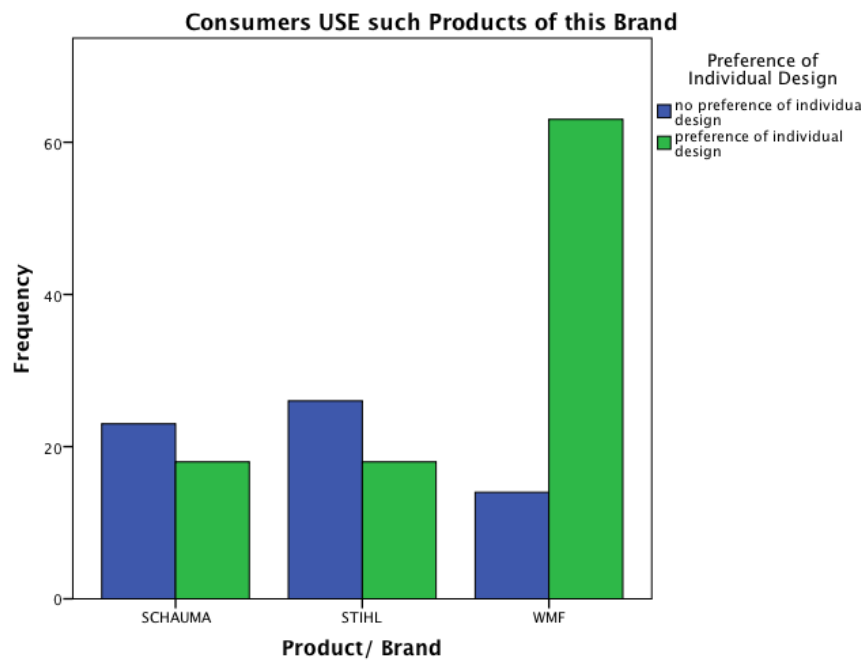
Appendix Table 22: Crosstabulation: Product/ Brand * Preference of Individual Design * Consumers use such Products of this Brand

Product/ Brand * Preference of Individual Design * Consumers use such Products of this Brand Crosstabulation							
Consumers use such Products of this Brand				Preference of Individual Design		Total	
				no preference of individual design	preference of individual design		
don't use	Product/ Brand	SCHAUMA	Count	35	24	59	
			% within Product/ Brand	59,3%	40,7%	100,0%	
		STIHL	Count	24	32	56	
			% within Product/ Brand	42,9%	57,1%	100,0%	
		WMF	Count	5	18	23	
			% within Product/ Brand	21,7%	78,3%	100,0%	
	Total	Count	64	74	138		
		% within Product/ Brand	46,4%	53,6%	100,0%		
	use	Product/ Brand	SCHAUMA	Count	23	18	41
				% within Product/ Brand	56,1%	43,9%	100,0%
STIHL			Count	26	18	44	
			% within Product/ Brand	59,1%	40,9%	100,0%	
WMF			Count	14	63	77	
			% within Product/ Brand	18,2%	81,8%	100,0%	
Total		Count	63	99	162		
		% within Product/ Brand	38,9%	61,1%	100,0%		
Total		Product/ Brand	SCHAUMA	Count	58	42	100
				% within Product/ Brand	58,0%	42,0%	100,0%
	STIHL		Count	50	50	100	
			% within Product/ Brand	50,0%	50,0%	100,0%	
	WMF		Count	19	81	100	
			% within Product/ Brand	19,0%	81,0%	100,0%	
	Total	Count	127	173	300		
		% within Product/ Brand	42,3%	57,7%	100,0%		

Appendix Chart 22: Preference of Individual Design relative to Consumers who don't use such Products of this Brand



Appendix Chart 23: Preference of Individual Design relative to Consumers who use such Products of this Brand



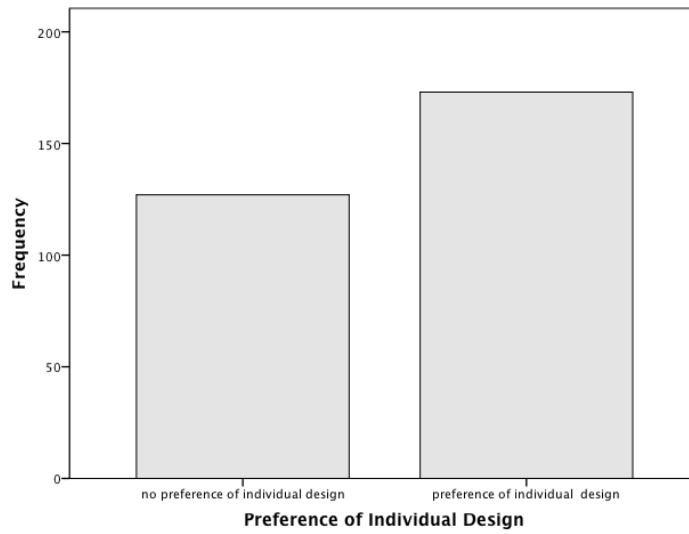
PREFERENCE OF INDIVIDUAL DESIGN

PREFERENCE OF INDIVIDUAL DESIGN ACCORDING TO PRODUCT/ BRAND, GENDER AND IN TOTAL

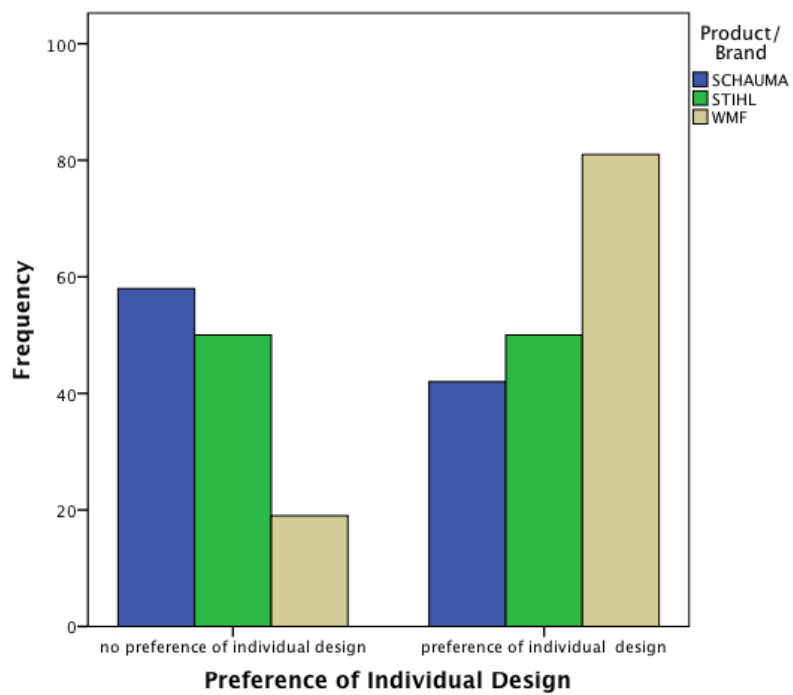
Appendix Table 23: Crosstabulation: Preference of Individual Design * Product/ Brand * Gender

Crosstabulation: Preference of Individual Design * Product/ Brand * Gender								
Gender				Product/ Brand			Total	
				SCHAUMA	STIHL	WMF		
Male	Preference of Individual Design	no preference of individual design	Count	22	40	4	66	
			% within Product/ Brand	55,0%	51,9%	10,5%	42,6%	
	preference of individual design	Count	18	37	34	89		
		% within Product/ Brand	45,0%	48,1%	89,5%	57,4%		
	Total			Count	40	77	38	155
				% within Product/ Brand	100,0%	100,0%	100,0%	100,0%
Female	Preference of Individual Design	no preference of individual design	Count	36	10	15	61	
			% within Product/ Brand	60,0%	43,5%	24,2%	42,1%	
	preference of individual design	Count	24	13	47	84		
		% within Product/ Brand	40,0%	56,5%	75,8%	57,9%		
	Total			Count	60	23	62	145
				% within Product/ Brand	100,0%	100,0%	100,0%	100,0%
Total	Preference of Individual Design	no preference of individual design	Count	58	50	19	127	
			% within Product/ Brand	58,0%	50,0%	19,0%	42,3%	
	preference of individual design	Count	42	50	81	173		
		% within Product/ Brand	42,0%	50,0%	81,0%	57,7%		
	Total			Count	100	100	100	300
				% within Product/ Brand	100,0%	100,0%	100,0%	100,0%

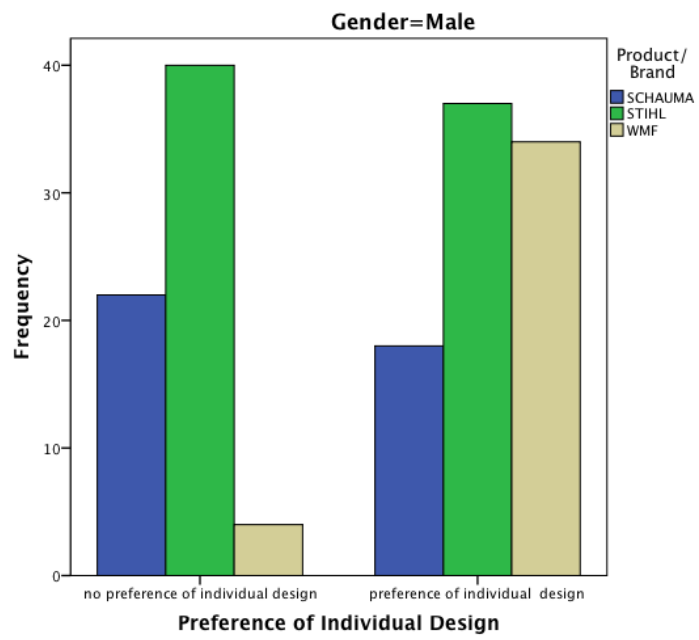
Appendix Chart 24: Preference of Individual Design in total



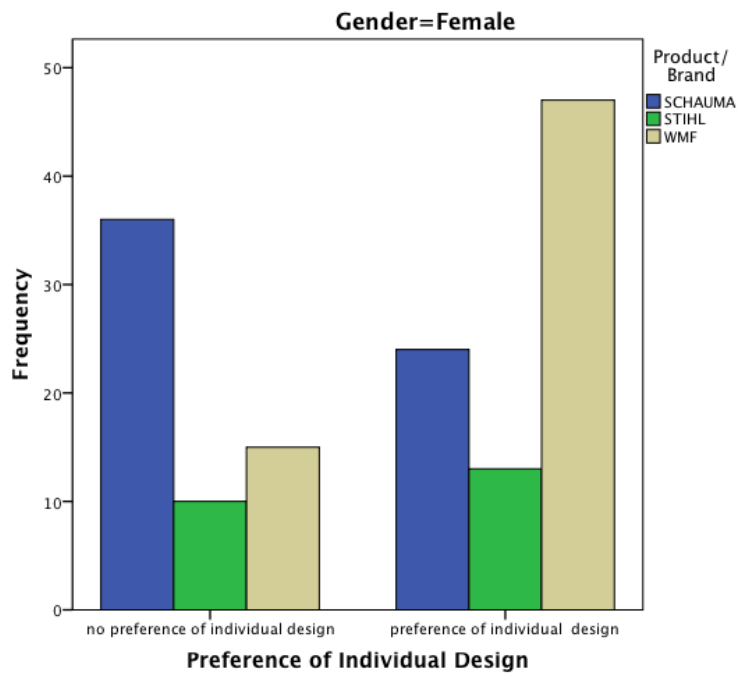
Appendix Chart 25: Preference of Individual Design relative to Product/ Brand



Appendix Chart 26: Preference of Individual Design relative to Product/ Brand * Gender = Male



Appendix Chart 27: Preference of Individual Design relative to Product/ Brand * Gender = Female



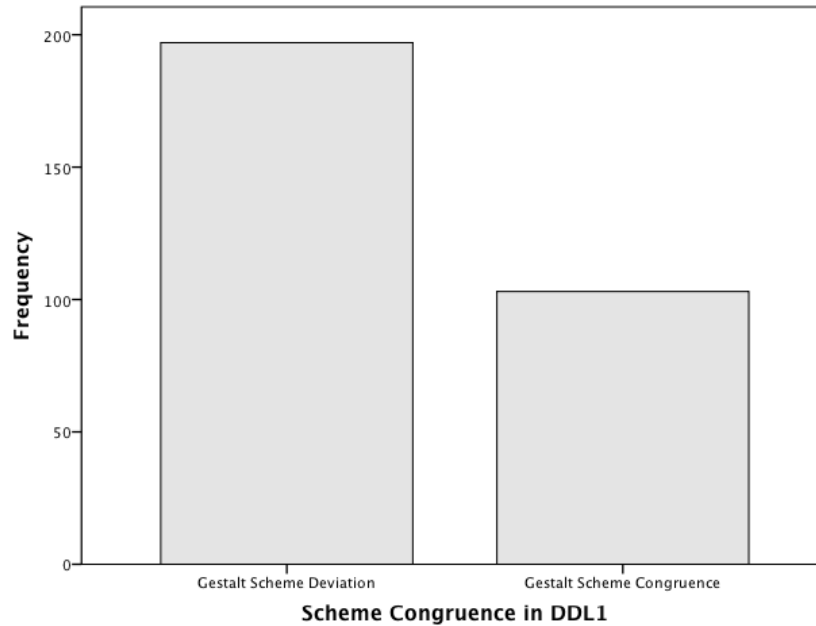
SCHEME CONGRUENCE

SCHEME CONGRUENCE IN DDL1

Appendix Table 24: Crosstabulation: Gestalt Scheme Congruence in DDL1 * Product/ Brand

Crosstabulation: Gestalt Scheme Congruence in DDL1 * Product/ Brand						
			Product/ Brand			Total
			SCHAUMA	STIHL	WMF	
Scheme Congruence in DDL1	Gestalt Scheme Deviation	Count	69	67	61	197
		% within Product/ Brand	69,0%	67,0%	61,0%	65,7%
	Gestalt Scheme Congruence	Count	31	33	39	103
		% within Product/ Brand	31,0%	33,0%	39,0%	34,3%
Total		Count	100	100	100	300
		% within Product/ Brand	100,0%	100,0%	100,0%	100,0%

Appendix Chart 28: Gestalt Scheme Congruence in DDL1

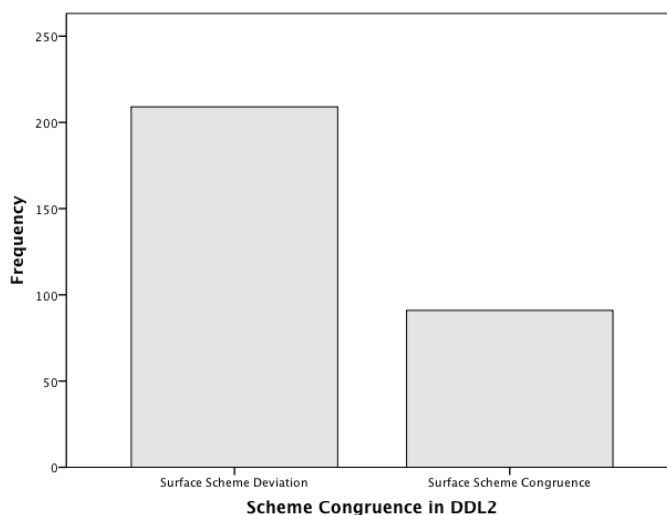


SCHEME CONGRUENCE IN DDL2

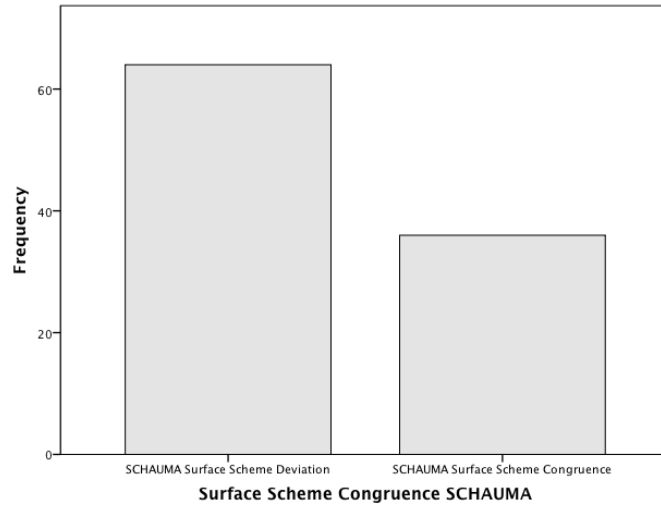
Appendix Table 25: Surface scheme congruence in DDL2

Surface Scheme Congruence in DDL2		TOTAL		SCHAUMA		STIHL		WMF	
		Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Surface Scheme Deviation	209	69,7	64	64,0	83	83,0	62	62,0
	Surface Scheme Congruence	91	30,3	36	36,0	17	17,0	38	38,0
	Total	300	100	100	100,0	100	100,0	100	100,0

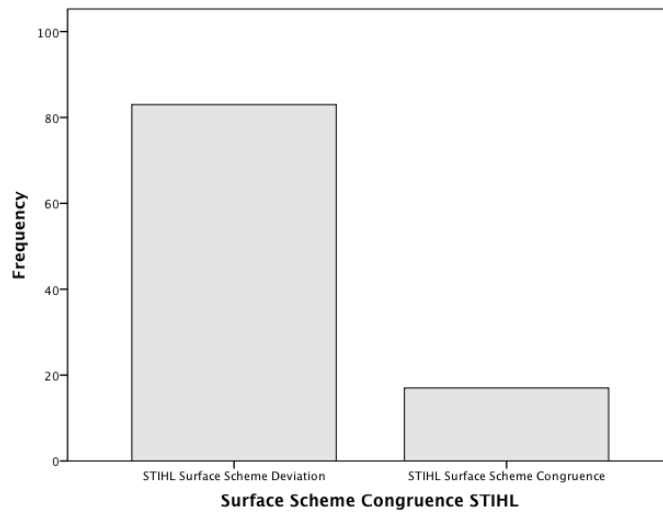
Appendix Chart 29: Surface Scheme Congruence in DDL2



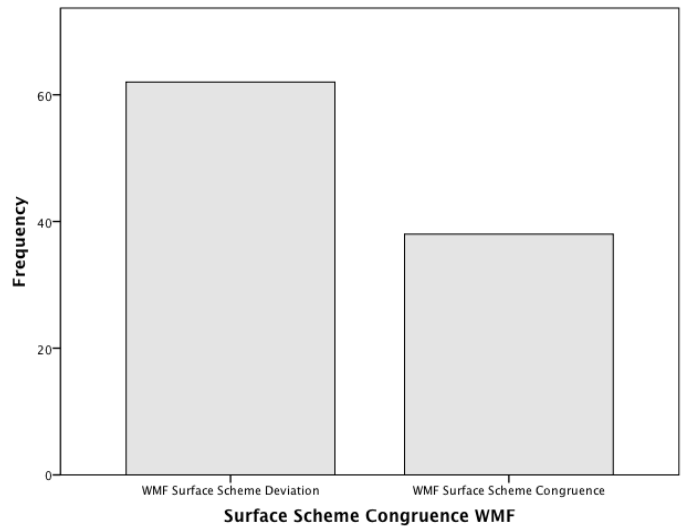
Appendix Chart 30: Surface Scheme Congruence SCHAUMA in DDL2



Appendix Chart 31: Surface Scheme STIHL Congruence in DDL2



Appendix Chart 32: Surface Scheme WMF Congruence in DDL2

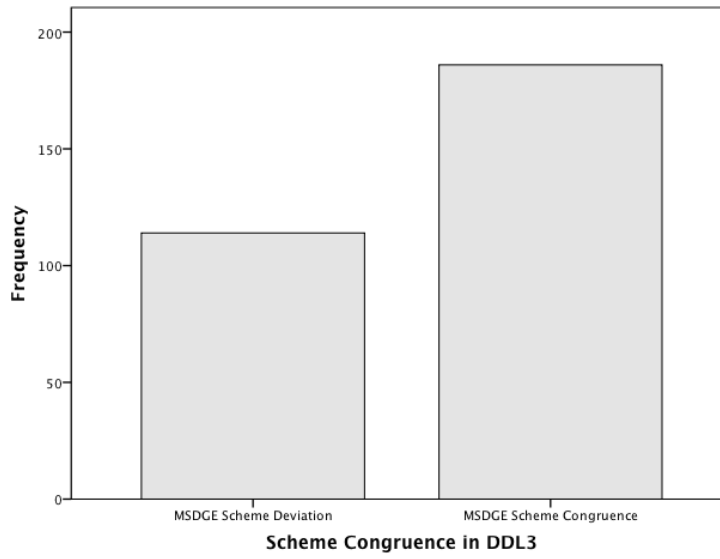


SCHEME CONGRUENCE IN DDL3

Appendix Table 26: Crosstabulation: Scheme Congruence in DDL3 * Product/ Brand

Crosstabulation: Scheme Congruence in DDL3 * Product/ Brand						
			Product/ Brand			Total
			SCHAUMA	STIHL	WMF	
Scheme Congruence in DDL3	MSDGE Scheme Deviation	Count	29	33	52	114
		% within Product/ Brand	29,0%	33,0%	52,0%	38,0%
	MSDGE Scheme Congruence	Count	71	67	48	186
		% within Product/ Brand	71,0%	67,0%	48,0%	62,0%
Total		Count	100	100	100	300
		% within Product/ Brand	100,0%	100,0%	100,0%	100,0%

Appendix Chart 33: MSDGE Scheme Congruence in total



DEGREE OF TOTAL SCHEME CONGRUENCE

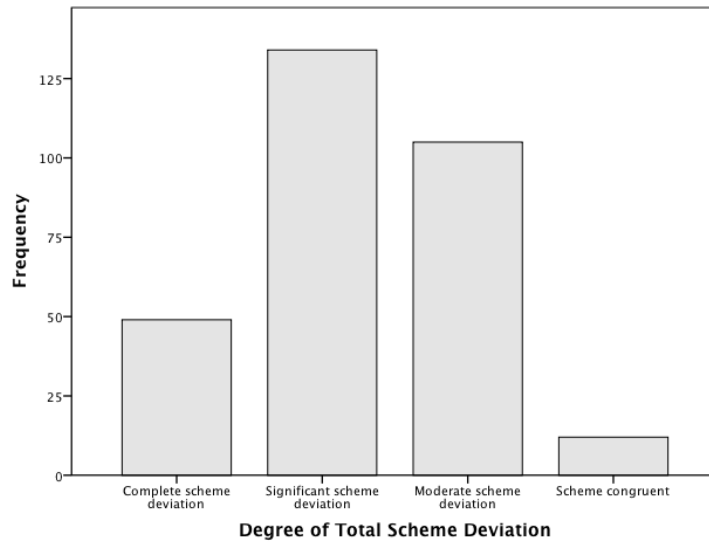
Appendix Table 27: Crosstabulation: Degree of Total Scheme Deviation * Product/ Brand

Crosstabulation: Degree of Total Scheme Deviation * Product/ Brand						
			Product/ Brand			Total
			SCHAUMA	STIHL	WMF	
Degree of Total Scheme Deviation	Complete scheme deviation	Count	16	17	16	49
		% within Product/ Brand	16,0%	17,0%	16,0%	16,3%
	Significant scheme deviation	Count	34	50	50	134
		% within Product/ Brand	34,0%	50,0%	50,0%	44,7%
	Moderate scheme deviation	Count	46	32	27	105
		% within Product/ Brand	46,0%	32,0%	27,0%	35,0%
	Scheme congruent	Count	4	1	7	12
		% within Product/ Brand	4,0%	1,0%	7,0%	4,0%
Total		Count	100	100	100	300
		% within Product/ Brand	100,0%	100,0%	100,0%	100,0%

Appendix Table 28: Crosstabulation: Degree of Total Scheme Deviation * Gender

Crosstabulation: Degree of Total Scheme Deviation * Gender			Gender		Total
			Male	Female	
Degree of Total Scheme Deviation	Complete scheme deviation	Count	27	22	49
		% within Gender	17,4%	15,2%	16,3%
	Significant scheme deviation	Count	68	66	134
		% within Gender	43,9%	45,5%	44,7%
	Moderate scheme deviation	Count	55	50	105
		% within Gender	35,5%	34,5%	35,0%
	Scheme congruent	Count	5	7	12
		% within Gender	3,2%	4,8%	4,0%
Total		Count	155	145	300
		% within Gender	100,0%	100,0%	100,0%

Chart 11: Degree of Scheme Deviation overallAppendix Chart 34: MSDGE Scheme Congruence in total



9 REFERENCES

- Aaker, David A. (1996), *Building Strong Brands*, London: Simon & Schuster UK Ltd.
- Aaker, Jennifer L. (2005), "Dimensionen der Markenpersönlichkeit," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 165-176.
- Adidas (2013), Company Homepage, http://www.adidas.de/samba-schuh/G17102_530.html, Oct 15, 2013, Internet.
- Aicher, Otl (1996), *Kritik am Auto: Schwierige Verteidigung des Autos gegen seine Anbieter*, 2. Aufl., Berlin: Ernst&Sohn.
- Albers, Markus (2010), *Das amerikanische Aroma*, Brand Eins, Jg. 12 Heft 2, 52-56.
- Alexander, Christopher (1979), *THE TIMELESS WAY OF BUILDING*, New York: Oxford University Press.
- Apple (2012), Company Homepage, <http://www.apple.com/de/imac/>, Aug 24, 2012, Internet.
- AWP – Fotolia (2012), www.fotolia.com, Nov 22, 2012, Internet.
- Bar, Moshe and Maital Neta (2006), "Humans Prefer Curved Visual Objects (Research Report)," *Psychological Science*, Volume 17, Number 8, 645-648.
- Beinert, Markus and Herrmann Diller (2009), "Marketinginnovativität. Konzeptionalisierung und Validierung einer strategischen Kernkompetenz im Konsumgütermarketing," *Marketing – Zeitschrift für Forschung und Praxis*, Jg. 31 Heft 1, 7-23.
- Berkowitz, Marvin (1987), "Product Shape as a Design Innovation Strategy," *Journal of Product Innovation Management*, Volume 4 Issue 4, 274-283.
- Bialek, Catrin (2010), "Design verbessert Absatzchancen," *Handelsblatt*, <http://www.handelsblatt.com/unternehmenstrategie-design-verbessert-absatzchancen;2550345>, Apr 15, 2010, Internet.
- B-Line (2013), Company Homepage, <http://www.b-line.it/de/prodotti-boby.php>, Jun 30, 2013, Internet.

- Bloch, Peter H. (1995), "Seeking the Ideal Form: Product Design and Consumer Response," *Journal of Marketing*, Volume 59 No. 3, (July 1995), 16-29.
- Bloch, Peter H. (2011), "Product Design and Marketing: Reflections After Fifteen Years," *Journal of Product Innovation Management*, Volume 28 Issue 3, 378-380.
- Bloch, Peter H., Frédéric F. Brunel and Todd J. Arnold (2003), "Individual Differences in the Centrality of Visual Product Aesthetics: Concept and Measurement," *Journal of Consumer Research*, Volume 29, (March 2003), 551-565.
- Brigitte-Anzeigenleitung, G+J Media-Forschung und -service (2010), "Brigitte KommunikationsAnalyse 2010 - Frauen in Deutschland: Einstellungen, Marken, Medien," http://www.pm-junior.de/de/ka/ka2010/pdf/_pdf/KA_2010_Einzelseiten.pdf, Jun 15, 2013, Internet.
- Briley, Donnel A. and Jennifer L. Aaker (2006), "When Does Culture Matter? Effects of Personal Knowledge on the Correction of Culture-Based Judgements," *Journal of Marketing Research*, Volume XLIII, (August 2006), 395-408.
- Brown, Tim (2008), "Designer als Entwickler," *Harvard Business Manager*, Jg. 30, Heft 7, 56-67.
- Bruce, Margaret and Lucy Daly (2007), "Design and marketing connections: creating added value," *Journal of Marketing Management*, Volume 23, No. 9-10, 929-953.
- Buchholz, Kai and Klaus Mackowiak (2004), "Was heißt eigentlich „Design“?," in *Im Designerpark – Leben in künstlichen Welten*, Kai Buchholz and Klaus Wolbert, eds., Darmstadt: Häusser.media, 36-41.
- Burmeister, Klaus and Silke Loh (2009), "Dialog statt Wissensvermittlung," *Absatzwirtschaft – Zeitschrift für Marketing, Sonderausgabe zum Deutschen Marketingtag 2009*, 20-22.
- Cailler (2010), Company Homepage, <http://www.cailler.ch/de/Sortiment/Tafeln.aspx#>, May 31, 2010, Internet.
- Cassina (2005), "Le Corbusier," *Medna: Cassina*, <http://srhughes08.files.wordpress.com>, Mar 1, 2012, Internet.
- Chip (2012), http://www.chip.de/ii/230302892_3fdbaad163.jpg, Jul 30, 2012, Internet.

- Chitturi, Ravindra, Rajagopal Raghunathan and Vijay Mahajan (2008), "Delight by Design: The Role of Hedonic Versus Utilitarian Benefits," *Journal of Marketing*, Volume 27 (May 2008), 48-63.
- Chou, Jyh-Rong (2011), "A Gestalt-Minimalism-based decision-making model for evaluating product form design," *International Journal of Industrial Ergonomics*, Volume 41, 607-616.
- Clement, Jesper (2007), "Visual influence on in-store buying decisions: an eye-track experiment on the visual influence of packaging design," *Journal of Marketing Management*, Volume 23 Issue 9-10, 917-928.
- Creusen, Mariëlle E. H. (2011), "Research Opportunities Related to Consumer Response to Product Design," *Journal of Product Innovation Management*, Volume 28 Issue 3, 405-408.
- Decker, Reinhold and Kumiko Gribba-Yukawa (2009), "Konsumentenforschung im Web 2.0 – Analysen von Online-Rezensionen zur kundenorientierten Produktgestaltung," *Marketing – Zeitschrift für Forschung und Praxis*, Jg. 31 Heft 2, 117-136.
- Dell'Era, Claudio and Roberto Verganti (2011), "Diffusion of Product Meanings in Design-Intensive Industries: Determinants and Dynamics," *Journal of Product Innovation Management*, Volume 28 Issue 6, 881-895.
- Deng, Xiaoyan and Barbara E. Kahn (2009), "Is Your Product on the Right Side? The "Location Effect" on Perceived Product Heaviness and Package Evaluation," *Journal of Marketing Research*, Volume XLVI, (December 2009), 725-738.
- Deutz-Fahr (2013), Company Homepage, http://www.deutz-fahr.com/GERMANY/de-DE/3344de.html?identitytypecustomfields=DESCR_OVERVIEW&idproduct=56, Mar 13, 2013, Internet.
- Dohr, Manuel (2011), "Aston Martin Cygnet Sonderedition: Luxus-Kleinwagen startet ab 37.995 Euro," *Auto Motor und Sport*, <http://www.auto-motor-und-sport.de/news/aston-martin-cygnet-sonderedition-luxus-kleinwagen-startet-ab-37-995-euro-2794925.html>, Feb 24, 2012, Internet.
- Domizlaff, Hans (2005), *Die Gewinnung des öffentlichen Vertrauens – Ein Lehrbuch der Markentechnik*, 7. Aufl., Hamburg: Marketing Journal Gesellschaft für angewandtes Marketing mbH.

- Dudenhöffer, Ferdinand (2005), "Systemmarken – Vernetzung produktnaher Angebote um Marken," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 549-569.
- Dudenredaktion (2007), *Duden – Der kleine Duden – Fremdwörter*, 6. Aufl., Mannheim: Bibliographisches Institut AG.
- Durgee, Jeffrey F., Gina Colarelli O'Connor and Robert W. Veryzer (1996), "OBSERVATIONS: TRANSLATING VALUES INTO PRODUCT WANTS," *Journal of Advertising Research*, November/December 1996. 90-99.
- Eichhorn, Julian (2008), *Design Parameter Shift Evaluation – Development of a Method to Improve Design Predictability in the Automotive Context*, Technische Universiteit Eindhoven, Dissertation.
- Esch, Franz-Rudolf (2004), *Strategie und Technik der Markenführung*, 4. Aufl., München: Vahlen.
- Esch, Franz-Rudolf and Tobias Langner (2005), "Branding als Grundlage zum Markenaufbau," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 573-586.
- Esch, Franz-Rudolf and Tobias Langner (2005a), "Grundlagen der Gestaltung von Markenlogos," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 603-628.
- Esch, Franz-Rudolf, Tobias Langner and Jan-Eric Rempel (2005), "Ansätze zur Erfassung und Entwicklung der Markenidentität," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 105-129.
- Esch, Franz-Rudolf and Thorsten Möll (2005), "Kognitionspsychologische und neuroökonomische Zugänge zum Phänomen Marke," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 63-82.
- Esch, Franz-Rudolf, Andreas Wicke and Jan-Eric Rempel (2005a), "Herausforderungen und Aufgaben des Markenmanagements," *Kognitionspsychologische und neuroökonomische Zugänge zum Phänomen Marke*, in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 5-55.

- Esslinger, Hartmut (2009), *Schwungrat*, Weinheim: WILEY-VCH Verlag GmbH & Co. KgaA.
- Esslinger, Hartmut (2011), "Sustainable Design: Beyond the Innovation-Driven Business Model," *Journal of Product Innovation Management*, Volume 28 Issue 3, 401-404.
- Focus Online (2012), "Stihl rechnet nach Rekordjahr für 2012 mit weniger Wachstum," *Focus Online*, http://www.focus.de/finanzen/news/wirtschaftsticker/unternehmen-stihl-rechnet-nach-rekordjahr-fuer-2012-mit-weniger-wachstum_aid_741608.html, Feb 08, 2013, Internet.
- Folkes, Valerie and Shashi Matta (2004), "The Effect of Package Shape on Consumer Judgements of Product Volume: Attention as a Mental Contaminant," *Journal of Consumer Research*, Volume 31 No. 2, (September 2004), 390-401.
- Fournier, Susan M. (2005), "Markenbeziehungen – Konsumenten und ihre Marken," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 211-237.
- Frogdesign (2010), Company Homepage, <http://www.frogdesign.com/about/history>, Apr 19, 2010, Internet.
- Fuchs, Christoph, Emanuela Prandelli and Martin Schreier (2010), "The Psychological Effects of Empowerment Strategies on Consumers' Product Demand," *Journal of Marketing*, Volume 74 No. 1, (January 2010), 65-79.
- Geyer, Erich (1987), *Kreativität im Unternehmen*, Landsberg am Lech: Verlag Moderne Industrie.
- Godau, Marion and Bernd Polster (2000), *Design Lexikon Deutschland*, Köln: DuMont.
- Grcic, Konstantin (2012), Company Homepage, <http://konstantin-grcic.com/resources/681.jpg>, Aug 24, 2012, Internet.
- Handelsblatt (2012), "Schauma – Das Shampoo," *Handelsblatt*, <http://www.handelsblatt.com/marken-des-jahrhunderts/unternehmensportraet-schauma-das-shampoo/7536794.html>, Jul 15, 2013, Internet.
- Hagtvedt, Henrik and Vanessa M. Patrick (2008), "Art Infusion: The Influence of Visual Art on the Perception and Evaluation of Consumer Products," *Journal of Marketing Research*, Volume XLV, (June 2008), 379-389.

- Headandshoulders (2013), Company Homepage, <http://www.headandshoulders.de/de-DE/head-and-shoulders-pflegeserie.aspx>, Mar 13, 2013, Internet.
- Hemenway, Priya (2008), *DER GEHEIMEN CODE – Die rätselhafte Formel, die Kunst, Natur und Wissenschaft bestimmt*, Köln: Evergreen GmbH.
- Henkel (2013), Company Homepage, http://www.henkel.de/de/content_images/SCHAUMA_Frucht_u_Vitamin_Shampoo_209961_print_1772H_1772W.jpg, Apr 30, 2013, Internet.
- Hensel, Bettina (2010), „Jedes gute Design braucht einen Bruch,“ *Zeit Online*, <http://www.zeit.de/lebensart/mode/2010-01/schoenheit-strenesse>, Jan 27, 2010, Internet.
- Herr, Joachim (2003), „Siemens verramscht Xelibri-Modelle,“ *Frankfurter Allgemeine Zeitung*, <http://www.faz.net/frankfurter-allgemeine-zeitung/siemens-verramscht-xelibri-modelle-1130977.html>, Feb 27, 2012, Internet.
- Hillenbrand, Tom (2010), „Autos im Web 2.0 – Pack den User in den Tank“, *Spiegel Online*, <http://www.spiegel.de/auto/fahrkultur/0,1518,druck-695366,00.html>, May 20, 2010, Internet.
- Hoegg, JoAndrea and Joseph W. Alba (2011), „Seeing Is Believing (Too Much): The Influence of Product Form on Perceptions of Functional Performance,“ *Journal of Product Innovation Management*, Volume 28 Issue 3, 346-359.
- Holbrook, Morris B. and William J. Havlena (1988), „Assessing the Real-to-Artificial General-izability of Multiattribute Attitude Models in Tests of New Product Designs,“ *Journal of Marketing Research*, Volume XXV, (February 1988), 25-35.
- Holbrook, Morris B. and Robert M. Schindler (1994), „Age, Sex, and Attitude Towards the Past as Predictors of Consumers’ Aesthetics Tastes for Cultural Products,“ *Journal of Marketing Research*, Volume XXXI, (August 1994), 412-422.
- Huerlimann Tractors (2013), Company Homepage, http://www.huerlimann-tractors.com/en-EN/xl_130-185ei.html?identitytypecustomfields=DESCR_OVERVIEW&idproduct=45, Mar 13, 2013, Internet.
- Imagix Pictures – Fotolia.com (2012), <http://de.fotolia.com/id/34531289>, Oct 22, 2012, Internet.

- Ikea (2013), Company Homepage, <http://www.ikea.com/de/de/catalog/products/80083464//>, Nov 21, 2013, Internet.
- Interstuhl (2013), Company Homepage, <http://www.interstuhl.de/l/de%2Dde/modelle.php?modell=151S>, Jun 30, 2013, Internet.
- Jang Seongkeun, Yongki Yoon, Inseong Lee and Jinwoo Kim (2009), "DESIGN-ORIENTED NEW PRODUCT DEVELOPMENT," *Research Technology Management*, March – April 2009, Volume 52 Issue 2, 36-46.
- Johnson, Gerald C. (1948), "EFFECTIVE MARKETING BEGINS ON THE DESIGN BOARDS," *Journal of Marketing*, Volume 13 Issue 1, 32-36.
- Josten, Husch (2009): „Vergesst Design!“, *Brand Eins*, Jg. 11, Heft 11, 156-159.
- Karjalainen, Toni-Matti and Dirk Sneldersk (2010), "Designing Visual Recognition for the Brand," *Journal of Product Innovation Management*, Volume 27 Issue 1, 6-22.
- Kotler, Philip and Friedhelm Bliemel (2006), *Marketing Management –Analyse, Planung und Verwirklichung*, 10. Aufl., München: Pearson.
- Kotler, Philip and G. Alexander Rath, (1984), "Design: A Powerful but Neglected Strategic Tool," *Journal of Business Strategy*, Volume 5 Issue 2, 16-22.
- Krippendorff, Klaus (1989), "On the Essential Contexts of Artifacts or on the Proposition that "Design Is Making Sense (of Things)"", *Design Issues*, Volume 5 Number 2 (Spring 1989), 9-39.
- Krippendorff, Klaus (2011), "Principles of Design and a Trajectory of Artificiality," *Journal of Product Innovation Management*, Volume 28 Issue 3, 411-418.
- Krishna, Aradhna and Maureen Morrin (2007), "Does Touch Affect Taste? The Perceptual Transfer of Product Container Haptic Cues," *Journal of Consumer Research*, Volume 34 (April 2008), 807–818.
- Kristensen, Tore and Kjell Grønhaug (2007), "Can design improve the performance of marketing management?," *Journal of Marketing Management*, Volume 23, Number 9-10, 815-827.

- Kroeber-Riel, Werner, Peter Weinberg and Andrea Gröppel-Klein (2009), *Konsumentenverhalten*, 9. überarbeitete, aktualisierte und ergänzte Aufl. , München: Franz Vahlen.
- KTM (2012), Company Homepage, <http://www.ktm.com/de/x-bow/clubsport/highlights.html>, Aug 24, 2012, Internet.
- Kuhn, Lothar (2007), "Designer sind Störenfriede," *Harvard Business Manager*, Jg. 29, Heft 4, 42-44.
- Lamborghini Tractors (2013), Company Homepage, http://www.lamborghini-tractors.com/GERMANY/de-DE/r6_130-185de.html?idproductbinaryresources_group=2&idproduct=6, Mar 13, 2013, Internet.
- Landwehr, Jan R., Ann L. McGILL and Andreas Herrmann (2011), "It's Got the Look: The Effect of Friendly ad Aggressive "Facial" Expressions on Product Liking and Sales," *Journal of Marketing*, Volume 75 No. 3, (May 2011), 132-146.
- Leder, Helmut and Claus-Christion Carbon (2005), "Dimensions in Appreciation of Car Interior Design," *Applied Cognitive Psychology*, Volume 19, 603-618.
- Lewandowski, Jürgen (2008), "SACCO THE MASTER: FROM SALOONS TO THE COMPACT A-CLASS," in *Design by Mercedes-Benz*, Daimler AG, ed., Bielefeld: Delius Klasing, 202-215.
- Levy, Sidney J. (1959), "SYMBOLS FOR SALE," *Harvard Business Review*, July/August 59, Volume 37 Issue 4, 117-124.
- Lidwell, William, Kritina Holden and Jill Butler (2004), *Design – Die 100 Prinzipien für erfolgreiche Gestaltung*, München: Stiebner.
- Loewy, Raymond (2000), *Industrial Design*, London: Laurence King Publishing.
- Lotter, Wolf. (2010), "Der harte Kern," *Brand Eins*, Jg. 12 Heft 2, 42-51.
- Luo, Lan, P. K. Kannan and Brian T. Ratchford (2008), "Incorporating Subjective Characteristics in Product Design and Evaluations," *Journal of Marketing Research*, Volume XLV, (April 2008), 182-194.

- Maimaran, Michal and S. Christian Wheeler (2008), "Circles, Squares, and Choice: The Effect of Shape Arrays on Uniqueness and Variety Seeking," *Journal of Marketing Research*, Volume XLV, (December 2008), 731-740.
- Marinovic, Slaven (2010), "Jeder ist ein Werber," *Brand Eins*, Jg. 12 Heft 2, 76-79.
- Martin, Roger (2009), "Design thinking: achieving insights via the "knowledge funnel"," *Strategy & Leadership*, Volume 38, No. 2, 37 – 41.
- Maturana, Humberto, R. and Francisco J. Varela (1987), *Der Baum der Erkenntnis – Die biologischen Wurzeln des menschlichen Erkennens*, 1. Aufl., Bern/ München/ Wien: Scherz.
- Meissen (2010), Company Homepage, <http://www.meissen.com/de/ueber-meissen/unsere-tradition>, May 6, 2010, Internet.
- Mercedes - Auto Motor und Sport (2012), "Neue A-Klasse - der coolste Mercedes," *Auto Motor und Sport*, <http://www.auto-motor-und-sport.de/bilder/mercedes-concept-a-ausblick-auf-die-neue-a-klasse-3613705.html>, Aug 27, 2012, Internet.
- Mercedes-Benz (2013), Company Homepage, http://www.mercedes-benz.de/content/germany/mpc/mpc_germany_website/de/home_mpc/van/home/new_vans/models/citan_415/crewbus/configurator/configurator_4157KB.html?tp_voc=%2Fvan_konfigurator_VAN_ng2%2Fvp.dll%3Fstid%3DGD%26evid%3Dgo%26isf_GEW%3DDirektabfrage%25253DJa%25252CAT_GEW%25253Dm%26isf_INI%3DGewerblich%25253DJa%25252CAT_INI%25253Dm%26sequence%3D%25252FINI%25252FGEW%26filterFieldName%3DModellvariante%26sresp%3DModelVariant_commercial_CITANKB%26AppSessionID%3Dvoc_56525B55E378472484293F393B479E27%26session%3D0313121403410%26country%3Dde%26lang%3Dde, Mar 13, 2013, Internet.
- Meyer, Cordula. (2008), "USA: KULTOBJEKT UND STATUSSYMBOL," *SPIEGEL SPECIAL*, 5/2008, 87.
- Meyers-Levy, Joan and Alice M. Tybout (1989): "Scheme Congruity as a Basis for Product Evaluation," *Journal of Consumer Research*, Volume 16, (June 1989), 39-54.
- Moreau, C. Page and Kelly B. Herd (2009): "To Each His Own? How Comparisons with Others Influence Consumers' Evaluations of Their Self-Designed Products," *Journal of Consumer Research*, Volume 36 , (February 2010), 806-819.

- Neibecker, Bruno and Thomas Kohler (2009): "Produktdesign auf Basis von Conjointdaten," in *Conjointanalyse*, Daniel Baier and Michael Brusch, eds., Berlin, Heidelberg: Springer, S. 215-232.
- Nike (2013), Company Homepage, http://store.nike.com/de/de_de/pd/roshe-run-herrenschuh/pid-804412/pgid-562094, Oct 15, 2013, Internet.
- Noble, Charles H. and Minu Kumar (2010), Exploring the Appeal of Product Design: A Grounded, Value-Based Model of Key Design Elements and Relationships, in *Journal of Product Innovation Management*, Volume 27 Issue 5, 640-657.
- Orth, Ulrich R. and Keven Malkewitz (2008), "Holistic Package Design and Consumer Brand Impressions," *Journal of Marketing*, Volume 72, (May 2008), 64-81.
- Ostmann, B. (2010), "Im Profil: Walter de Silva und Luca de Meo," *Auto Motor und Sport*, Heft 9, (April 2010), 156-158.
- Pals, Nico, Marc G. D. Steen, David J. Langley and Joke Kort (2008), "THREE APPROACHES TO TAKE THE USER PERSPECTIVE INTO ACCOUNT DURING NEW PRODUCT DESIGN," *International Journal of Innovation Management*, Volume 12 Number 3, 275-294.
- Patek Philippe SA (2012), Company Homepage, http://patekphilippe.com/contents/default/en/3738_100G_012.html, Mar 1, 2012, Internet.
- Patrick, Vanessa and Hagtvedt, Henrik (2011), "Aesthetic Incongruity Resolution," *Journal of Marketing Research*, Volume XLVIII, (April 2011), 393-402.
- Peters, Rolf-Herbert (2007), *Die Puma Story*, München: Hanser.
- Peters, Wolfgang. (2010), "Das Raster des Erfolgs," *Frankfurter Allgemeine Zeitung*, <http://www.faz.net/s/Rub1DABC609A05048D997A5F315BF55A001/Doc~EAE6EA47EB7624A54A5611A5A0D5C9257~ATpl~Ecommon~Scontent.html>, Apr 30, 2010, Internet.
- Podspeakers (2013), Company Homepage, <http://www.podspeakers.dk/product/smallpod/>, Jul 30, 2013, Internet.
- Radford, Scott. K. and Peter H. Bloch (2011), "Linking Innovation to Design: Consumer Responses to Visual Product Newness," *Journal of Product Innovation Management*, Volume 28 Issue 1, 208-220.

- Raghubir, Pryia and Eric A. Greenleaf (2006), "Ratios in Proportion: What Should the Shape of the Package Be?," *Journal of Marketing*, Volume 70, (April 2006), 95-107.
- Rams, Dieter (2004), "Die Verantwortung des Designs," in *Im Designerpark – Leben in künstlichen Welten*, Kai Buchholz and Klaus Mackowiak, eds., Darmstadt: Häusser.media, 106-113.
- Rat Für Formgebung (2010), *Die Schönheit des Mehrwerts*, http://www.german-design-council.de/fileadmin/Bilder/Design_Deutschland/Documents/Studie_Die_Schoenheit_des_Mehrwertes.pdf, Apr 16, 2010, Internet.
- Readers Digest Trusted Brands (2013), <http://www.rdtrustedbrands.com/tables/Winners%2520by%2520country.country.Germany.shtml>, Jul 15, 2013, Internet.
- Renault (2010), Company Homepage, <http://www.renault.de/renault-welt/unternehmen/renault-historie/geschichte-des-renault-designs/>, Apr 30, 2010, Internet.
- Renault (2013), Company Homepage, <http://www.renault.de/renault-modellpalette/renault-pkw/kangoo/kangoo/in-wenigen-worten/>, Mar 13, 2013, Internet.
- Rocks, David. (2005), "CHINA DESIGN – How the mainland is becoming a global center for hot products," *Business Week*, November 21, 56-62.
- Rosenthal, Peter (1999), *Automobildesign und Gesellschaft – Zu Attraktivitätsaspekten der automobilen Gestaltungssymbolik als Medien der sozialen Strukturierung*, Technische Universität Darmstadt, Dissertation.
- Rossmann (2013), Company Homepage, <http://www.rossmann.de/mein-design.html>, Oct 15, 2013, Internet.
- Rousseau, Jean- Jacques (1998), *Emil oder Über die Erziehung*, 13. Aufl., Paderborn: Ferdinand Schöningh.
- Rouleau, Christopher. (2012), "The more you know: The golden ratio," *Christophers Blog*, <http://rouleauc.blogspot.com/2009/04/more-you-know-golden-ratio.html>, Mar 1, 2012, Internet.

- Ruge, Hans-Dieter (2005), "Aufbau von Markenbildern," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 239-261.
- Same Deutz-Fahr (2013), Company Homepage, <http://www.samedeutz-fahr.com/ebusiness/1804/leafletsiron130185ita.pdf?ccode=e n-EN>, Mar 13, 2013, Internet.
- Sato, Steve (2009), "Beyond good: great innovations through design," *Journal of Business Strategy*, Volume 30, 40-49.
- Schauma (2013), Company Homepage, <http://www.schauma.schwarzkopf.de/schauma/de/de/home/produkte.html>, Mar 13, 2013, Internet.
- Schauma (2013a), Company Homepage, <http://www.schauma.schwarzkopf.com/schauma/en/en/home/history/history.html>, Apr 10, 2013, Internet.
- Schauma (2013b), Company Homepage, <http://www.schauma.de/schauma/de/de/home/produkte/glatt-glossy/glatt-and-glossy-shampoo.html>, May 15, 2013, Internet.
- Schauma (2013c), Company Homepage, <http://www.schauma.de/schauma/de/de/home/geschichte/geschichte.html>, Jul 15, 2013, Internet.
- Schmitt, Bernd and Marc Mangold (2005), "Customer Experience Management als zentrale Erfolgsgröße der Markenführung," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 287-303.
- Schmitt, Bernd and Alex Simonson (2005), "Marketing-Ästhetik für Marken," in *Moderne Markenführung – Grundlagen – Innovative Ansätze – Praktische Umsetzungen*, Franz-Rudolf Esch, ed., 4. Aufl., Wiesbaden: Gabler, 305-327.
- Schnabel, Michael (2013), Company homepage, <http://www.enste-jaspers.de/michael-schnabel/people/>, Jul 09, 2013, Internet.
- Seufert, Hans-Dieter - Auto Motor und Sport (2013), "Renault Dezir im Fahrbericht - Sportwagenstudie mit Elektromotor," *Auto Motor und Sport*, <http://img1.auto-motor-und-sport.de/Renault-Dezir-fotoshowBigImage-80490f54-434094.jpg>, Jul 30, 2013, Internet.

- Serralunga (2012), Company Homepage, <http://www.serralunga.com/collections.htm?lang=de>, Aug 27, 2012, Internet.
- Sullivan, Louis H. (1896), "The tall office building artistically considered," in *Lippincot's Magazine*, March 1896, [http://www.personalweb.unito.it/andrea.carosso/nyc/texts/Louis Sullivan - The Tall Office building.pdf](http://www.personalweb.unito.it/andrea.carosso/nyc/texts/Louis_Sullivan_-_The_Tall_Office_building.pdf), Jan 25, 2010, Internet.
- Spiegel Online (2010), "Stoppt Chris Bangle!," *Spiegel Online*, <http://www.spiegel.de/auto/werkstatt/0,1518,196957,00.html>, Jun 1, 2010, Internet.
- Starck (2013), Company Homepage, <http://www.starck.com/en/design/categories/furniture/tables.html#baobab>, Jul 30, 2013, Internet.
- Starck (2013a), Company Homepage, <http://www.starck.com/en/design/categories/furniture/chairs.html#lago>, Jul 30, 2013, Internet.
- Ströbele Carolin (2010), "Mein Freund, die Marke," *Zeit Online*, <http://www.zeit.de/lebensart/mode/2010-01/mode-social-networks>, Jun 27, 2010, Internet.
- Stihl (2013), Company Homepage, <http://www.stihl.de/STIHL-Produkte/Motorsägen/Sägen-für-die-Forstwirtschaft/2475-1582/MS-660.aspx>, Feb 11, 2013, Internet.
- Stihl (2013a), Company Homepage, <http://www.stihl.de/STIHL-Produkte/Motorsägen/Sägen-für-Landwirtschaft-und-Gartenbau/21802-120/MS-291.aspx>, Nov 21, 2013, Internet.
- Stihl Timbersports (2013), Company Homepage, <http://www.STIHL-timbersports.de/sport.aspx>, Feb 08, 2013, Internet.
- Swissinfo (2010), http://www.swissinfo.ch/media/cms/images/null/2006/04/sriimg20060418_6637549_2.jpg, May 31, 2010, Internet.
- Talke, Katrin, Sören Salomo, Jaap E. Wieringa and Antje Lutz (2009), "What about Design Newness? Investigating the Relevance of a Neglected Dimension of product Innovativeness," *Journal of Consumer Research*, Volume 26 Issue 6, 601-615.
- Toyota (2012), Company Homepage, http://www.toyota.de/cars/new_cars/iq/index.tmex, Feb 24, 2012, Internet.

- Janell D. Townsend, Mitzi M. Montoya, and Roger J. Calantone (2011), "Form and Function: A Matter of Perspective," *Journal of Product Innovation Management*, Volume 28 Issue 3, 374-377.
- Uckrow, Klaus (2010), "Design: Portrait Thomas Bürkle," in *Auto Zeitung*, Heft 2, (Januar 2010), 42-45.
- Van Rompay, Thomas J. L. and Ad T. H. Pruyn (2011), "When Visual Product Features Speak the Same Language: Effects of Shape-Typeface Congruence on Brand Perception and Price Expectations," *Journal of Product Innovation Management*, Volume 28, 599-610.
- Verganti, Roberto (2008), "Design, Meanings, and Radical Innovation: A Metamodel and Research Agenda," *Journal of Product Innovation Management*, Volume 25 Issue 5, 436-456.
- Verganti, Roberto (2011), "DESIGNING BREAKTHROUGH PRODUCTS - How companies can systematically create innovations that customers don't even know the want," *Harvard Business Review*, October 2011, 115-120.
- Verganti, Roberto. (2011a), "Radical Design and Technology Epiphanies: A New Focus for Research on Design Management," *Journal of Product Innovation Management*, Volume 28 Issue 3, 384-388.
- Verganti, Roberto and Brigitte Borja De Mozota (2005), "The Impact of User-Oriented Design on Product Development: An Examination of Fundamental Relationships," *Journal of Product Innovation Management*, Volume 22 Issue 2, 128-143.
- Veryzer, Robert W. and J.Wesley Hutchinson (1998), "The Influence of Unity and Prototypicality on Aesthetic Responses to New Product Designs," *Journal of Consumer Research*, Volume 24, (March 1998), 374-394.
- Villeroy & Boch (2012), Company Homepage, http://shop.villeroy-boch.com/public_de/newwave-tea-cup.html, Aug 27, 2013, Internet.
- Vitra (2012), Company Homepage, <http://www.vitra.com/de-ch/home/products/la-chaise/gallery/#/19/c986e5e99b126e3.jpg>, Aug 24, 2012, Internet.
- Volkswagen (2012), Company Homepage, http://www.volkswagen.de/content/medialib/vwd4/global/mom/up/wallpaper/up0004_up_exterior_side_view/_jcr_content/renditions/rendition.file/up0004_up_1024x768.jpg, Aug 24, 2012, Internet.

- Wäch, Peter (2006), *Was lief schief bei Cailler*, http://www.handel-heute.ch/pdf/HH6_046_049.pdf, May 31, 2010, Internet.
- Wally (2012), Company Homepage, <http://www.wally.com/wally-118/>, Aug 24, 2013, Internet.
- Watzlawick, Paul, Janet H. Beavin and Don D. Jackson (2007), *Menschliche Kommunikation – Formen, Störungen, Paradoxien*, 11. Aufl., Bern: Hans Huber.
- Westerman, Steve J. , Peter H. Gardner, Ed J. Sutherland, Tom White, Katie Jordan, David Watts, and Sophie Wells (2012), "Product Design: Preference for Rounded versus Angular Design Elements," in: *Psychology and Marketing*, Volume 29 (8), 595-605.
- Wickenheiser, Othmar (2009), *MINI Design – past present future*, Stuttgart: Motorbuchverlag.
- WIKIPEDIA (2010), Online Encyclopedia, <http://de.wikipedia.org/wiki/Design>, Jan 22, 2010, Internet.
- WIKIPEDIA (2010a), Online Encyclopedia, <http://en.wikipedia.org/wiki/Design>, Jan 21, 2010, Internet.
- Willenbrock, Harald. (2010), "Die Japan-Connection," *Brand Eins*, Jg. 12 Heft 2, 81-85.
- WMF (2013), Company Homepage, http://www.wmf.de/de_de/wmf-erleben/marke-entdecken/marke-design.html?type=atom, Jul 16, 2013, Internet.
- WMF (2013a), Company Homepage, http://www.wmf.de/shop/de_de/kuche/kochtopfe/fleischtopf -o-24-cm-function-4.html, Jul 17, 2013, Internet.
- Wolbert, Klaus (2004), "Im Designerpark. Alles Design – oder was?" in *Im Designerpark – Leben in künstlichen Welten*, Kai Buchholz and Klaus Wolbert, eds., Darmstadt: Häusser.media, 16-27.
- Wolter, James F., Frank R. Bacon, Dale F. Duhan and R. Dale Wilson (1989), "How Designers and Buyers evaluate Products," *Industrial Marketing Management*, Volume 18, 81-89.
- Yamamoto, Mel and David R. Lambert (1994), "The Impact of Product Aesthetics on the Evaluation of Industrial Products," *Journal of Product Innovation Management*, Volume 11 Issue 4, 309-324.
- Zakon, Alan J. (1998), "Auf die Idee kommt es an" in *Das Boston-Consulting-Group-Strategie-Buch: Die wichtigsten Managementkonzepte für den Praktiker*, Bolko von Oetinger, ed., 6. Aufl. Düsseldorf/Wien/New York/Moskau: ECON, 152-158.

9.1 KEYNOTE SPEECH

Bauer, Karlheinz (2010), Presentation at the "9. Fachkongress Innenraum," *Automobil-Produktion*, Stuttgart, Germany; Nov 16, Mercedes-Benz Design.

CURRICULUM VITAE

Jan Of
Rotdornstraße 30
72461 Albstadt/ Germany
Born August 24th, 1980 in Tübingen/ Germany
Married
www.jan-of.de

EDUCATION

2000: Gymnasium Ebingen, Abitur

2001-2005: Pforzheim University of Applied Sciences. Diplom Designer (FH) (Transportation Design),
Mark: 1.5

2007-2009: European School of Business ESB, Reutlingen. MBA, Mark: 1.4
Otto Johannsen Award 2009: MBA Thesis: "Design Evaluation System - A Methodology to
Objectify Design"

PROFESSIONAL

1997-2005: Internships during School and University

- Designpraxis Diener, Ulm/ Germany
- Designedge, Austin/ USA
- ED Design, Leonberg/ Germany
- WMF AG, Geislingen/ Germany
- Mercedes-Benz Team AMG/ HWA AG, Affalterbach/ Germany
- BMW Group/ MINI Design, Munich/ Germany

2005-2007: Hyundai Motor Europe, Rüsselsheim/ Germany
Automotive Exterior Designer. Exterior Designer of the Hyundai Qarmaq Concept Car.

Since 2007: Freelance Design and Marketing Strategy Projects

- Automotive design proposals (exterior and interior) for leading German, Korean, Japanese and Chinese car manufacturers. Automotive brand strategy concepts.
- Vehicle design for international market leading companies in the area of agricultural and logistics investment goods. Opportunity studies and design concepts.
- Design concepts for market leading manufacturers of consumer goods.
- International brand strategy for manufacturer of solar inverters and for manufacturer of printed circuit boards.