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A BETTER INTEGRATION OF BUSINESS AND DESIGN

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Abstract

In many circumstances the fields of business and design are co-dependent, and as such integration between the fields is crucial to the success of both. Through his experiences in an integrated learning environment the author has noticed a difference in the working paradigms of each field. By exploring this paradigm gap and ways in which it might be bridged this thesis report endeavors to find ways to improve the integration between business and design. The benefits of better integration have potential to affect not only commercial firms, but also a wide array of stakeholders within society.

This report begins by looking at the mindsets at play in each field through review of existing research. A questionnaire is conducted to look at the personalities within each field. Case studies are conducted of businesses that have successfully used integrated strategies to their advantage. And a qualitative interview is conducted with four experts from the fields of concern. The results are delivered in the form of a four stage action plan.

The research shows that while businesspeople work with a paradigm based on efficiency and reliability, designers use a more empathy and validity based thought process. This difference in paradigm is seen to be the first obstacle to be overcome in achieving better integration and a four stage iterative action plan, the DEER cycle (Define, Educate, Encourage, Reinforce), is presented as a possible solution.

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1 INTRODUCTION

The motivation for this thesis is derived from the experiences of the author during his studies. The Design Programme at Karelia University of Applied Sciences was conducted alongside the International Business Programme and as such the author has worked in small projects with the business students. During these projects the benefits of integrated work has been noticed. However, although (as will be shown) the fields of business and design are somewhat symbiotic, there appears to be room for improvement in integrated work. It is the author's opinion that there are differences in the ways the fields work and that if these differences could be overcome it could prove advantageous to all involved. As such this paper investigates the two fields, the paradigms in place, the benefits of integrated models and ways to achieve better integration.

The term design encompasses many fields of expertise, most of which are inherently connected to the business world. The evolution of design as a field and the careers of individual designers have been heavily influenced by the economic incentive placed on businesses to create ever more competitive products (Fiell and Fiell 1999, 7). Design as a field is vast and varied, containing all manner of specialization, from industrial design to graphic design, service design and fashion design etc. Despite each subcategory of design being individual from the others, the majority of practitioners will self-identify with the all-encompassing title of designer. The goal of designers from all fields could be described as the desire to improve on the existing. For many, this improvement takes place in a commercial setting; therefore the involvement of business elements is an important part of a successful design.

“Good design is good business”

-Thomas Watson

(The Art of Design Management: Design in American Business 1975).

Business management deals with many facets as part of its daily operations, design aspects make up one of these facets. There are many actions involved with business management including such activities as accounting, marketing, production and daily operations. An important aspect of business management is the continuing improvement within a firm's sphere of operation. Whether in product or service development, cost effectiveness, working practices, branding or marketing initiatives, continuing improvement within firm operations help to create a foundation of economic sustainability. This need for continuing improvement means business managers are required to include designers in their operations.

This thesis report looks at the relationship between the fields of business and design, and how that relationship can be strengthened. The phenomenon of design thinking is beginning to gain traction as a strategic tool and is being taught in some business schools throughout the world, prompting a recent **Financial Review** article to refer to it as "the hottest thing in business schools around the world" (Dodd 2014). But will reducing the methods of designers into set formats that can be used by the business sector as tools result in enduring integration, or are there actions that could be taken initially to ensure a better understanding of why the tools are used? This research looks at ways to not simply aid the business sector in the use of design methods, but to empathize with a design mindset, and vice versa. Before concrete actions can be carried out in a collaborative fashion it is important that any difference in mindset is reconciled. It is the author's hypothesis that a strengthened relationship between the fields can then lead to a higher rate of goal realization for both parties.

A better integration of business and design could be the road to stronger management. The differences in the field specific mindsets of both fields are explored in this research. The desire of designers to improve on the existing, and the requirement of business management to continually improve creates a situation in which the two fields can act in a symbiotic fashion. As will be shown in this paper, the fields of business and design, however, seem to act according to differing paradigms which when brought together in working life has a potential of leading to difficulties, conflict and a loss of efficiency. More study is dedicated here to the definition of this paradigm gap, and how it has de-

veloped. This research then aims at finding actions that aid in the bridging of the paradigm gap between the fields of business and design, which if put into practice have the potential to increase the validity of the actions of firms and strengthening those firm's chances of long term success.

1.1 Literature review

To build a suitable methodology for this thesis report, other research and literature on the focus topic has been reviewed. By reviewing the work of others on the topic of business and design integration the most promising tools and approaches used when discussing the subject can be identified. There is a vast amount of material dedicated to this subject of which a small selection has been reviewed here. By identifying what he perceives to be the most valid techniques used in the study of the topic and applying them to the methodology of this thesis report, the author hopes to build a stronger foundation for the work. As such, the first section of this chapter is dedicated to a literature review.

This literature review focusses on design, and its methodologies, as applied to the business and management world. Many experts agree that design thinking is useful in the business and management sector, although they acknowledge that the implementation of design methodologies is something that needs work. Most of the authors reviewed agree that design methodologies are useful when applied in the business sector and use their articles to convince the reader of this opinion. In the material reviewed, tools such as case studies and experiential anecdotes are those most commonly used in this endeavor. Having stated their belief in the effectiveness of design methods, authors writing on this subject commonly go on to point out the pitfalls of the implementation of such methods. A common theme among these pitfalls is identified as the fundamental differences between the methodologies of designers and the business sector. The reconciliation of these differences then becomes a major topic within the literature, as each author contemplates the possible solutions.

'Design thinking' and its implementation is a recurring idea within this literature review. In his 2008 Harvard Business Review article, Tim Brown of IDEO describes design thinking as "a methodology that imbues the full spectrum of innovation activities with a human-centered design ethos"(Brown 2008, 86). Many of the problems that are seen to exist in the application of design thinking stem from the fact that designers and their business executive counterparts seem to use different thought processes. While designers apply design thinking, business executives are seen to adhere to a more traditional business thinking model in which reliability and efficiency are held in the high regard (this idea is explored more closely in following chapters). Through the course of this review we will look at some of the solutions given by experts in the field to this fundamental divided.

With technological advances and globalization we are beginning to see a saturation of the world economic marketplace. As a result of this market saturation, pressure is increased on businesses to stand out. As James P. Hackett points out a great deal of focus is put on innovation, but innovation in itself is insufficient to drive economic survival (Hackett 2009, 85). While a popular innovation can make a business successful, this does not mean that the only prerequisite for success is the innovation itself. Design thinking, however, is not just simple innovation but innovative processes applied to all aspects of business operations. Therefore, Hackett (2009, 86) argues that "investing in innovation can be attractive but off-track if not coupled with design thinking".

Design thinking steers business models away from traditional product focused practices and instead places the focus on end users. In 2005, Design Council Chairman George Cox's *Review of Creativity in Business* warned of a lack of competitiveness for United Kingdom (UK) companies if they did not draw upon the design capabilities within the country. Unfortunately it seems that many small to medium enterprises "lack aspiration and are unable to see the relevance of design" (Unknown author 2007, 30). Despite the reluctance of some businesses to embrace design methods, it is still maintained by many that those methods can greatly enhance a business's chances of economic survival (Bouchard and del Forno 2012. Hackett 2009. Unknown 2007).

Literature in this field uses several tools to reinforce the arguments being made. Case studies and experiential anecdotes are very commonly used. In this portion of the review we will look at how different authors were able to make use of these different tools. And, as the different tools were used with varying success, we evaluate the tools as they have been used. For the purpose of this review we will examine five different articles and the tools used by the authors in each.

The Cox Review of Creativity in Business was a commissioned review which gave recommendations to the government of the UK. The conclusion drawn from this review was that for the UK to remain competitive, industries must use design as a tool to increase the value of their products and services (Cox 2005). As this was a government commissioned review the author had many resources available to him and was able to draw quite reliable conclusions. A large amount of quantitative data is used to support the findings within the report. Some of the assertions made by Cox have therefore helped to shape opinions within the field since its publication.

Roger Martin, Dean of Rotman School of Management, uses his experience in dealing with people from both the design and business sectors in asserting his views. His 2007 article *Design and Business: why can't we be friends?* attempts to highlight the differences in mindset between the two fields and suggests paths that could be taken to reconciliation. While he does not back up many of his claims with either case studies or research as many others do, it is obvious to those in either of the discussed fields that Martin is well experienced in dealing with both mindsets. Some of Martins assertions seem quite accurate and will be further explained in this review.

The 2007 article *Designing demand* (author unknown) endeavors to explain the importance of design through the use of working company examples and previously conducted research. This article cites the 2005 Cox review and draws from research done by the UK Design Council. The author then uses a case study to assert his arguments. In this work the case studies presented seem to provide a form of real world grounding that help the reader grasp the subject at hand. The tools used in this article therefore appear to be quite valid in their application.

In his 2009 article *Innovation is good, fitness is better* Hackett made use of both case studies and experience. As CEO of Steelcase Incorporated he was able to show how design thinking had helped to shape his company's business model and how it had led to them becoming a global industry leader (Hackett 2009). Hackett also drew comparisons between his own company and other similar companies, which kept his assertions within context. He was able to provide both the credibility of the *Designing demand* article with the ability to convince the reader that was found in Martin's piece. This article was very convincing in its argument that design thinking can lead to frameworks through which economic sustainability can be realized (Hackett 2009).

The final article that was reviewed, *The Future of Management as Design: a thought experiment* by Bouchard and Forno in 2012, used a variation of the case study method. Rather than drawing on the experience of a real company, they created a fiction narrative against which they tested their theories. This method seemed quite weak, as none of the assertions being made could be verified. The hypothetical company that the authors used supported their theories, but this fact seemed only to prove that the authors were capable of creating a company that fit their expectations. While some of the theories put forward by the authors seemed sound, the use of a fictional narrative diminished the authors' ability to convince the reader.

The consensus amongst the literature is that while design thinking can be a useful management tool, the implementation of this tool is often met with challenges. Bouchard and Forno point out that if design methods are treated as quick-fix tools by management

then their full potential may not be realized, leading to design thinking being labeled “yet another management fad”(Bouchard and del Forno 2012, 331). Perhaps the biggest challenge for design thinking in business world, however, is the fundamental difference in mindset between designers and traditional business thinking. Martin described the difference in mindset as being that between “the reliability orientations of business executives versus the validity orientation of designers” (Martin 2007, 6). This difference in mindset seems to be at the root of the problem of convincing businesses to invest in design. According to research by the UK Design Council in 2007 “69 per cent of UK companies spend nothing on design.”

In his article, Martin suggests several solutions to bridge to divide between the design and business sectors, one of which is particularly interesting. He proposes that each field should take the inattention paid to their particular way of thinking as a specific challenge (Martin 2007, 8). A lack of understanding between the two mindsets can lead to a breakdown in communication, which in turn stalls productivity. Martin suggests that rather than designers “complaining about reliability-oriented executives and dismissing them as philistines” they should look at the difference in understanding as a design challenge that needs to be solved (Martin 2007, 9). Design work is in essence the creation of innovative solutions, so the divide between the fields should be looked at as a problem in need of a solution. Conversely, business executives with a tendency to look at design thinking as “not a legitimate management concern, just a threat to security and stability” should try to approach the difference between their own mindset and that of designers as a management challenge (Martin 2007, 9). Martins’ suggestions may seem quite logical, but the relationship between the design and business sectors can be frustrating to those involved and is not often looked at by an unbiased eye.

Having reviewed the literature on the subject we can see that while there are some issues to overcome, there is a general consensus that the field of design can be a definitive advantage in the business sector. Through the use of case studies, experience and the review of existing research many experts have been able to convey the importance of design thinking. In the saturated markets of a globalized economy a business must be prominent to become and to remain a sustainable entity, and design methods can help

achieve this goal. There are several challenges to overcome during the implementation of design thinking into the business mindset; however there are many suggestions on how these challenges can be met. The research conducted as part of this thesis will help to identify the best practices to achieve better integration of the fields.

1.2 Research structure

In order to carry out this research a set process plan has been followed, Figure 1 is a visual representation of this plan. The research begins by taking a brief look at the modern history of each field in order to better understand the mindset of those involved. Paradigms and semantics are also looked at as part of the theoretical framework. These topics are represented in Figure 1 in the **Initial Research** and with the **Quantitative Questionnaire** in the first two stages. These areas of focus help to lay a framework for understanding the different types of individuals that make up the business and design sectors, how they communicate and what drives them on in their chosen professions.

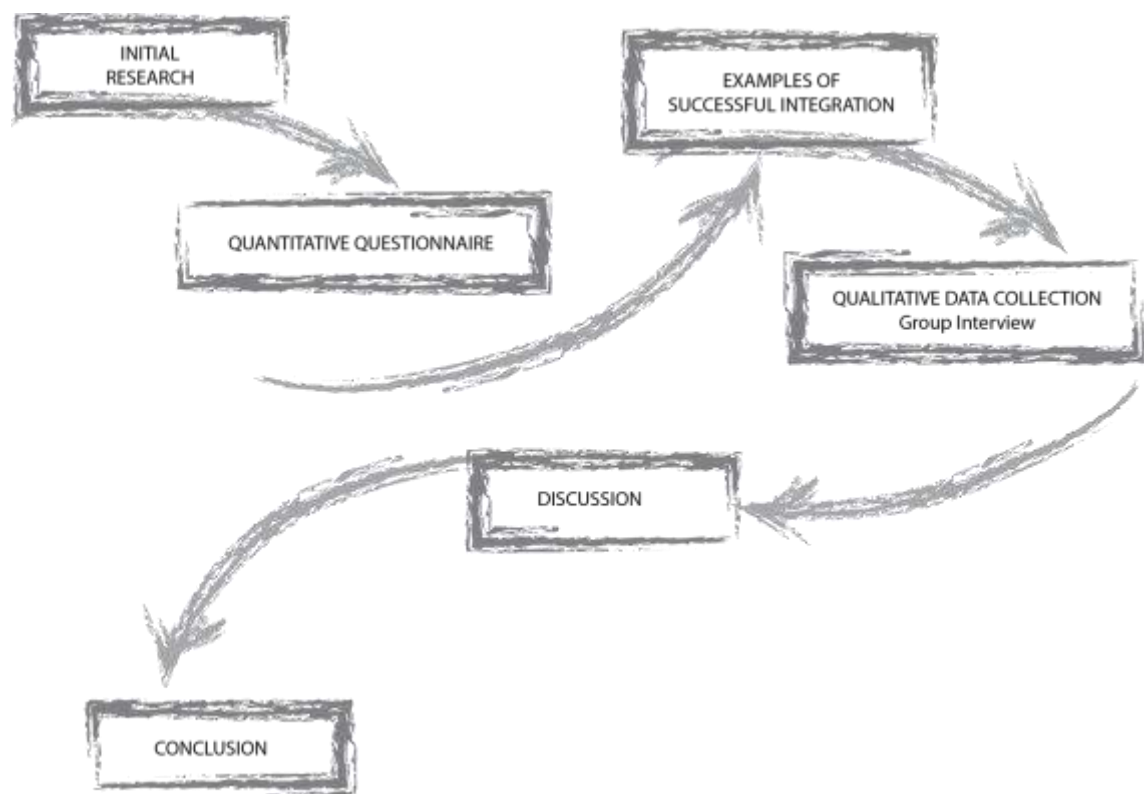


Figure 1. Research structure.

There are large numbers of professionals that identify as designers, despite the fact that this term covers many different areas of expertise. Quite often the label of designer is given a defining adjective such as in the cases **graphic designer** or **industrial designer**. For the purposes of this research an all-encompassing term is preferable, and as such the individuals from the business world are referred to simple as business people. This term, like designer, is very broad in its definition. As will be shown, however, the field of business is itself very broad. Both definitions encompass many sub-categories of professional expertise; it is however, the field-wide mindset that is of primary interest to this study. The second stage of research involves the conducting of a questionnaire in which students entering the fields are asked about the perceptions they have of the fields of business and design and the character traits they most associate with the people (as a group) that make up those fields.

The research then moves into analysis of real world examples which serves to investigate the success or failure of existing businesses and how their ability to integrate design and business has helped or hindered them. The **Examples of Successful Integration** chapter begins by investigating the ways businesses embrace and integrate the design field in their operations. These businesses are then evaluated on their long term corporate strength. The purpose of these case studies is not just to identify the importance of integration, or to highlight the ways in which it can be achieved, but to build themes of importance that can be discussed during the qualitative stage that follows.

The first three stages of research when combined act as important information collection tools through which questions, and more importantly, general themes are constructed for the following **Qualitative Data Collection** stage seen in Figure 1. The qualitative data collection stage consists of a group interview in which several experts from the fields of focus were present. The interview was conducted in open-ended discussion style, in which the interviewees responded to and discussed general themes rather than direct questions. The complete interview, including preparation, execution and analysis is described in chapter five.

2 THE PARADIGMS AT PLAY

To understand the different mindsets involved with the focus of this study we must first understand the theoretical foundations and history of each field of interest. Both the fields of business and design are blanket definitions that cover many areas of professional expertise. As all areas of the business field must be managed simultaneously, management becomes an all-encompassing term under which the operations of business can be placed; management theory therefore becomes the focus in the following chapter. While for design, rather than focusing on the results of design processes, the investigation in this paper is aimed more toward the train of thought behind said process. The industrial revolution was a turning point in human history in which new machines and production methods gave rise to the possibility of mass production on scales that had previously been unobtainable. It was also a major turning point for the fields of both business and design, as it brought the work of both fields into much higher demand. Much of modern management theory and design (in the current sense of the word) began from this historical turning point and has developed since then. In this section we look briefly at the evolution of each of the fields of business and design.

2.1 A brief history of management theory

The concept of management covers a multitude of different disciplines within the scope of business operations. Figure 2 shows a graphical portrayal of this scope. This chapter investigates the evolution in management theory. Management theory can be seen as the thoughts and ideas behind management actions. The action procedures laid out by different proponents may be more relevant in some certain fields than they are in others, but the thought process behind the procedures is the driving force of a fully formed management theory.



Figure 2. Business disciplines.

Modern management theory has transitioned through several stages in the last hundred to hundred and fifty years. Beginning with what is commonly called the **classical management movement** and moving through subsequent theories such as the **behavioral**, the **quantitative** and the **modern management** movements (Pindur, Rogers and Kim 1995, 59-76). Prominent figures and proponents have driven each stage of this evolution, such as Frederick W. Taylor during the classical management movement, whose work is still referred to in modern times. By examining each of these stages of management theory an understanding of the current business management mindset can be built. This section will outline some of the more important features of each stage of management thought.

The classical management movement consisted of different elements, the two main elements being **scientific** and **general administrative** management (Pindur et al. 1995, 60). The classic management movement focused on what are still widely accepted business practices such as increasing productivity to increase profits and cost-cutting through more efficient working procedures. Scientific management had more of an individual worker emphasis while the general administrative strain endeavored to look at management at an organizational level. The classical management movement, which arose around the turn of the twentieth century, is considered to be “the oldest and most widely accepted school of thought among management practitioners” (Pindur et al. 1995, 60).

Scientific management regarded the success of a company to be a mutual interest of both management and workers. Considered the father of scientific management was Frederick W. Taylor, who focused on the efficient productivity of individual workers. This focus on efficiency and productivity of the individual was a driving theme of the scientific management phenomenon. Another contemporary of the movement was Henry L. Gantt, whose skillset included the production of charts that helped to transform complex data into comprehensible managerial information (Weaver 2012, 2). Gantt is also credited with the management practice of incentive bonuses that would be awarded to workers that exceeded their productivity requirements. By increasing productivity and efficiency of the workers it was believed that an enterprise could achieve better profitability.

While still having a focus on efficiency, general administrative management put forward a broader perspective, examining the organization of management as a whole. Major proponents of general administrative management included Henri Fayol who introduced **systematic management theory** and Max Weber who worked on theories of **bureaucratic management**. Some of the theories and practices generated during the general administrative management movement are still referred to in modern management situations, it can therefore be seen that general administrative, and indeed, the classical management movement as a whole created the foundations of modern management.

The behavioral management movement which came to light during the 1920's and 1930's was based on an approach more concerned with psychological aspects that were seen to have been lacking in the classical approach (Pindur et al. 1995, 64-65). While productivity and efficiency were still seen as vital elements of successful business practice, behavioral management looked deeper into human behavior. Concepts such as motivation, group dynamics and conflict were investigated and commented on by such leading experts as Mary Parker Follet. During the rise of the behavioral management theory a set of investigations were conducted that would become known as the **Hawthorne studies**. The Hawthorne studies set out to prove Taylor's theories of scientific management, but instead showed productivity to be linked almost completely with social factors (Santos, Powell and Sarshar 2002, 789). Also known as the human relations movement, the behavioral management movement focused on workers not as tools but as social beings.

Quantitative management movement involves the incorporation of mathematical models in its management efforts (Pindur et al. 1995, 67-69). The practice of quantitative management (also known as operations research) emerged from the Second World War when the techniques used in military endeavors made their way into the public and private sectors (Fuller and Mansour 2003, 422). It adopts the use of statistics and computer aided models and simulations to assist in the daily operations of business management. The quantitative management built on the existing management models by incorporating emerging technology.

The modern management movement consists of an amalgamation of the previous movements and several new theories. In 1961 Harold Koontz described the confusion of management theories as a “jungle” (Koontz 1961). Some examples of these theories include the **systems**, and the **total quality management (TQM)** approaches (Pindur et al. 1995, 69). The systems approach looks at the operations of an organization as that of an interconnected system. The TQM approach, also known as Japanese-style management was introduced by Walter Shewart and W. Edwards Deming and has an emphasis on quality control. Modern management theory is both diverse and complex, drawing inspiration from previous theories; we now take a look at some of these theories a little closer.

Systems approach management regards an organization as a purpose driven system (Rampur 2012). In systems approach management an organization is viewed as an interconnected system in which all facets of operation are linked. In the confines of this theory systems are considered to be either an open or a closed. Open systems are those that interact with the outside environment while closed systems do not and are more self-reliant (Pidur et al.1995, 70-71). A systems approach works on the principle that each facet of an organization is reliant on the others; it allows managers to see all operations as the mechanisms of a single entity.

Total quality management, as the name implies, has an emphasis on quality control. The theory began with Walter Stewart’s use of the control chart in the early 1920’s (Best and Neuhauser 2006), but it was W. Edwards Deming who really brought the theory to forefront when he began teaching the methods in Japan in 1950. TQM revolves around the core principles of customer satisfaction and the continuing quality of both products and process. Towards the end of the twentieth century TQM gained widespread acceptance as a useful management system in an ever more competitive marketplace (Martinez-Lorente, Dewhurst and Dale 1998, 2).

In 1982 Tom Peters and Robert Waterman co-authored a book called *In Search of Excellence* that would go on to spawn the **excellence approach** to management. The book was written following the author's research of management in a large number of companies. *In Search of Excellence* advised the use broad hierarchies in which organizations are viewed as idea clusters rather than machines in place of the bottom to top, numbers oriented systems that they saw to exist (Seddens 2011). In their article *The history of management: a global perspective* Pindur et al. (1995, 74) assert that, "the excellence approach dictates that effective organizations continue to strive for improvement". This definition closely resembles the description of the goals of designers (the desire to improve on the existing) put forward in the introduction of this thesis. The excellence approach to management and the theories produced in *In Search of Excellence* enjoyed popularity through the turn of the century and are still seen as relevant today.

Many of the management theories discussed to this point might be considered **supply side** theories. On the **demand side** of business operations such theories as the **Marketing Mix**, also known as **the Four P's** can be found. The Four P's of the marketing mix are defined as; Product, Place, Price and Promotion. This four facet definition of marketing is one that "many marketers learn as they start out in the industry" (mindtools.com). As with other management theories the marketing mix is very mechanical in its nature. Even here, on the supposed demand side, the omission of a customer/user element shows what could be perceived as a lack of empathy in the driving mindset. On the marketing side of business operations, as with theories from the supply side there is a tendency toward reliability based processes.

Management theory has developed through several stages to reach its current position of complex diversity. From the early classical models of such proponents as Taylor that saw workers as tools, through to the more human oriented behavioral movement and the integration of new technologies during the quantitative movement and on into the "management jungle" (Koontz 1961) of the modern management movement there has been a lot of progress. During this progress however, some core elements of management theory, such as the importance of efficient productivity have remained at the fore-

front of management theories. Important to note is the mechanical nature of business thinking, throughout management history little time is given in empathizing with anyone outside the manager's immediate field of control, as this forms a major difference to design approaches. The intricacies of management theory form the framework for, and the foundations of the modern business mindset.

2.2 A brief history of design thought

A large amount of documented design history focuses on individual designers or the design of specific objects, for the purpose of this thesis however, we are more concerned with the thought processes involved. Design, as a professional field, covers many different disciplines. As the graphic depiction of design as a field seen in Figure 3 shows, it can include any numbers of subcategories, both tactile and operational. To focus too closely on any individual field or the artifacts created within that field would not yield the results that the topic of this thesis requires. Certain schools of thought in some fields, however, do project the mindset involved within the field during their particular time of popularity. In this section we will look at combination of the styles and trends that have prevailed in recent history, as well as the thought processes that drove them.

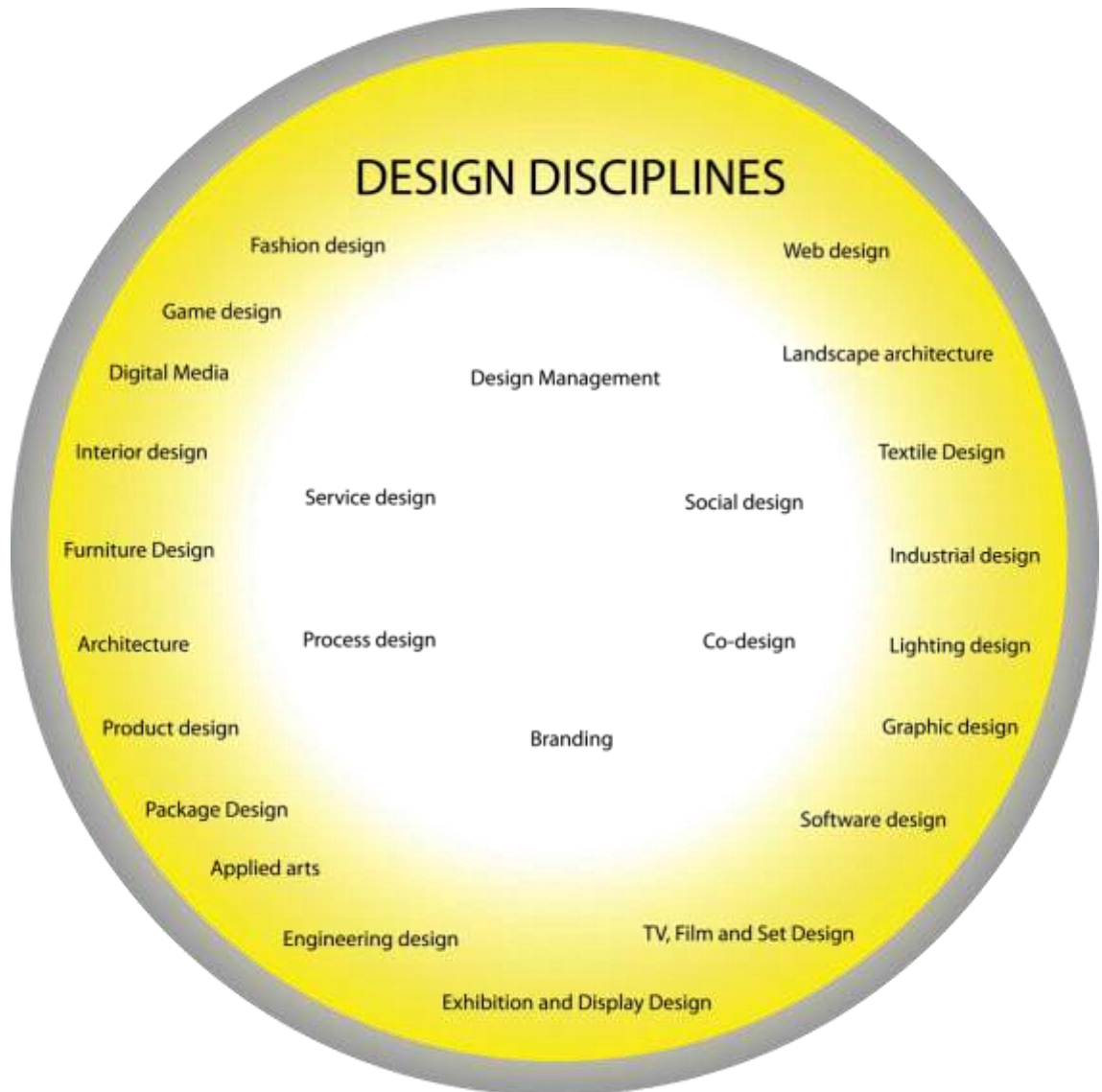


Figure 3. Design disciplines.

Design in its modern sense could, much like management theory, said to have stemmed from the industrial revolution and spread rapidly into the multifaceted field that it is today. Mass production and mechanized production methods meant that many products went from being made by individual craftspeople to being designed first and then produced multiple times. In 1956 the first shipping containers were used, which Levinson explains, brought about a revolution in global trade possibilities (Levinson 2006). With mass production techniques available and the potential for cost effective global trade, the demand on commercial enterprises to gain competitive advantages in turn led to a demand for the services of designers.

In 1919, the Bauhaus design school was established, ushering in a new style of design education. It was architect Walter Gropius that founded the school with the goal of connecting commercial reality with existing social idealism (Fiell and Fiell 1999, 7). The school taught a mixed curriculum of fine and applied arts. Teachers at the school included such people as the architect and furniture designer Marcel Breuer and Famous artists like Kandinski, Albers and Bayer. The education at Bauhaus included the design principles of user experience, sustainability and the importance of function in form that are still considered essential in modern design. The Bauhaus was not just a physical school, but a school of thought from which many modern design elements can trace their origin.

In the decades following the Second World War the field of design has undergone a vast expansion in the scope of its activities. Issues such as advances in technology and globalization along with the increased connectivity provided by the internet have broadened the possibilities and reach of the field. Social design and issues of sustainability have become more relevant to a public with an expanded social awareness. As a result of ever growing expectations of the design field interdisciplinary teams have in many places replaced the role of the individual designer (although gifted individuals capable of solo work will always exist). This widening of involvement in the design field makes the thought processes within the field hard to trace. Amongst this chaotic expansion, however, there are still some prominent names and philosophies.

In the 1960's and 70's a considerable deal of academic effort was put into distinguishing the differences between design and the sciences. In their work *Dilemmas in a General Theory of Planning* Horst Rittel and Marvin Webber stated that "societal problems are inherently different from the problems that scientists and perhaps some classes of engineers deal with. Planning problems are inherently wicked." (Rittel and Webber 1973, 160). Another strong voice on this issue was Herbert Simon who asserted that the key element that separated certain professions from the sciences was that of design (Simon 1996, 111). The idea of wicked problems as Rittel and Webber had put it, or problems that are not easily definable, were considered in this movement of thought as being the domain of the designer, while problems that are well-defined were that of the sciences.

The term wicked problems had been coined by Rittel and Webber to explain the types of problems faced in design circles, and this idea was further explored by Richard Buchanan. In the early nineties Buchanan published an article called *Wicked Problems in Design Thinking* in which he challenged the notion of a linear working process akin to that used in scientific methods being applicable in design methodology. He argued that the **indeterminacy** of wicked problems meant that definitive limits and conditions could not be applied to most design problems and that to set problem specific conditions it was necessary for design to part from a simple linear process (Buchanan 1992, 96-100). The open nature of design as a field and the inclusion of interdisciplinary teams mean that design processes modify depending on the particular, and often wicked, issue that is to be solved.

The concept of user-centered design plays a large role in modern design, and it offers an insight into the motivations of a designer. One of the leading early works on this subject is Donald Norman's *The Psychology of Everyday Things* (later reprinted as *The Design of Everyday Things*). Norman suggested that the driving philosophy of design should have an emphasis on usability and be grounded on the wants and needs of the user (Norman 2002, 154). In his work, Norman lamented the fact that the end user is not always the purchaser of a product, and that defining the user was one of the initial tasks facing a designer. Considered as a design process, this could be seen as one of the inde-

terminacies that Buchanan had alluded to. Design guided by the needs and interests of the user can deliver products and services that not only fulfill the commercial requirements of a global marketplace, but also the desire of designers to improve on the existing.

User-centered design quickly evolved into being not just about the wants and needs of the user, but their entire experience. Viewing customer interactions with a product or service from a holistic, experiential point of view enables designers to provide more appealing results. This holistic experience is the basis of service design, a movement within the design field that came to prominence during the nineties and around the turn of the twenty-first century. The notion of planning and organizing services was obviously not new, rather the approach was different. Described by Stefan Moritz as “a different way of approaching the way we think of the relationship between organizations and clients” (Moritz 2005, 7), service design approaches problems with a user-centered point of view that considers all aspects of a service, or indeed the services that may surround a product. It is an all-encompassing approach that has the user’s experience as its focus.

To better cater to the user-centered model the design field developed a number of techniques and working processes, amongst which is the concept of involving users in the design process. This involvement of users then brought some practitioners of design away from merely being user-centered and pushed them into a user-driven process. User-driven models use design research methods to not only discover the true needs and wants of users, but involves them in the actual design process. This is not to say the entire process is handed over to users that in turn are simply given anything they want, but that through thorough user research and incremental design methods the users are given a real time inclusionary role in the design process.

Processes such as co-design take a still more holistic approach to design. Co-design is a course of action in which all stakeholders in the work are included. It takes the holistic experiential model to the next logical step by including not only such players as the end users, but all stakeholders in the design process. By involving stakeholders in development decisions designers can place the process itself in the real world rather than acting as an intermediary between the two, allowing said process to find more valid solutions. As with many design methods, models such as co-design are often conducted through concrete actions. As explained in the Finnish design book *Muotoiluajattelu*, actions such as rapid-prototyping and the visualization of abstract ideas help to keep the design process grounded in the real world (Kalvianen 2014).

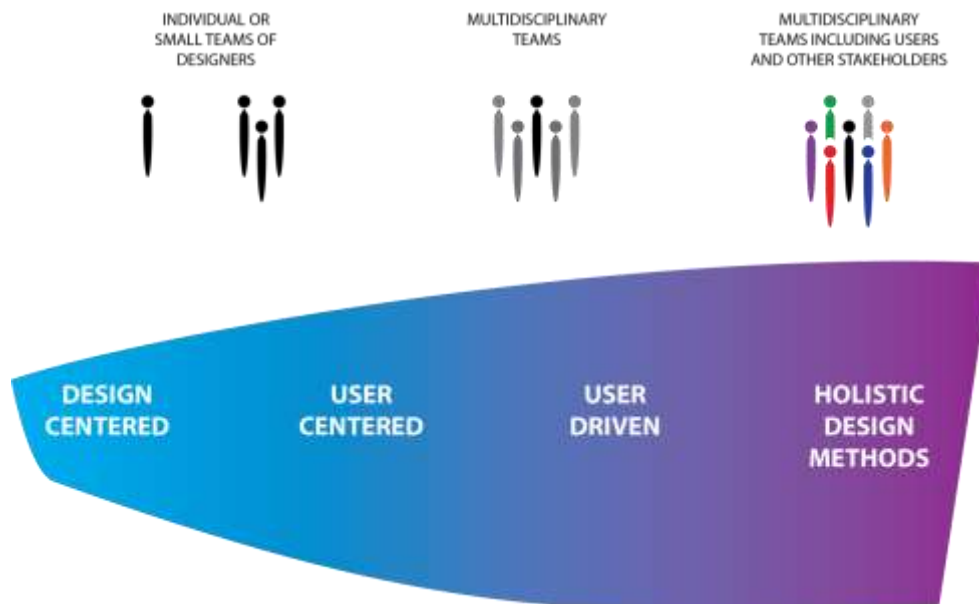


Figure 4. Progression of design.

This section of the paper has outlined some of the many trends within the design field; the salient point that cannot be emphasized enough is the expansion of the disciplines scope. Over recent history design has gone from being the domain of single or small teams of dedicated designers, to multidisciplinary teams and still further to include all stakeholders. The steady integration of more participants to achieve design goals mirrors the trend within the field to become increasingly holistic in its endeavors (see Figure 4). While the field continues to expand some core issues such as the important balance of function and form that was taught at Bauhaus remain significant in modern times. In fact, the idea that a product or service should not only provide its necessary function but be pleasurable at the same time could be seen as one of, if not the, primary goal behind designing for user experience. The complexities that make up modern design and the thought process that drives them form the framework for the mindset of today's modern designer.

2.3 Paradigms and semantics

While the fields of business and design exist symbiotically, there also exists an apparent cognitive dissonance. The goals and motivations across the two fields, as well as the personality traits common amongst those drawn to each discipline seem to indicate a fundamental discord. If left in place, this discord could prove detrimental to both communities. In order to bring harmony to the union of business and design one must first explore the reason behind rift. In this case it appears to be that of the paradigms held by each group. As explained in previous chapter both fields have become increasingly complex, and as such the paradigm descriptions that follow are of a necessarily generalized nature (an issue that is addressed in this section of the paper). In this chapter the idea of paradigms and how each field has constructed them is explored.

While the term paradigm has existed for a long time it was Thomas Kuhn that brought it to the prominence that it enjoys today in his 1962 work *The Structure of Scientific Revolutions*. In his book he describes the paradigms within branches of science as “a set of recurrent and quasi-standard illustrations of various theories in their conceptual, observational and instrumental applications” (Kuhn 1962, 43). A paradigm is a pre-formed cognitive framework, a foundational mindset from which communities’ thought processes can initiate (in this thesis report the terms paradigm and mindset are applied interchangeably). Kuhn explained that a paradigm was not merely a simple set of rules, but an origin point from which rules could proceed. A paradigm is shared within a mature community and is built from many influencing factors over time. Kuhn used the term paradigm to describe the situation in scientific research; it has since taken on a widened understanding to include sociological applications.

Many factors have influence in building a field specific paradigm and it is the differences in these paradigms that cause the discord between business and design practitioners. Paradigms are built by a range of aspects from a group’s sphere of influence (see Figure 5). A considerable amount of these aspects are acquired during a field specific education and can therefore be identified through a certain community’s accepted theory, hence the brief histories in the preceding chapters. We see from these histories that a business paradigm is one built on the principles of efficiency and productivity with the goals of profit and growth. The designer paradigm is constructed around the idea of creating more fulfilling experiences (the commercial result of which is quite often in tune with the business goal of profit). It can be seen then, that while the end results may be the same for both fields the starting points and driving paradigms are far removed from each other, herein lays the rift between these symbiotic companions.

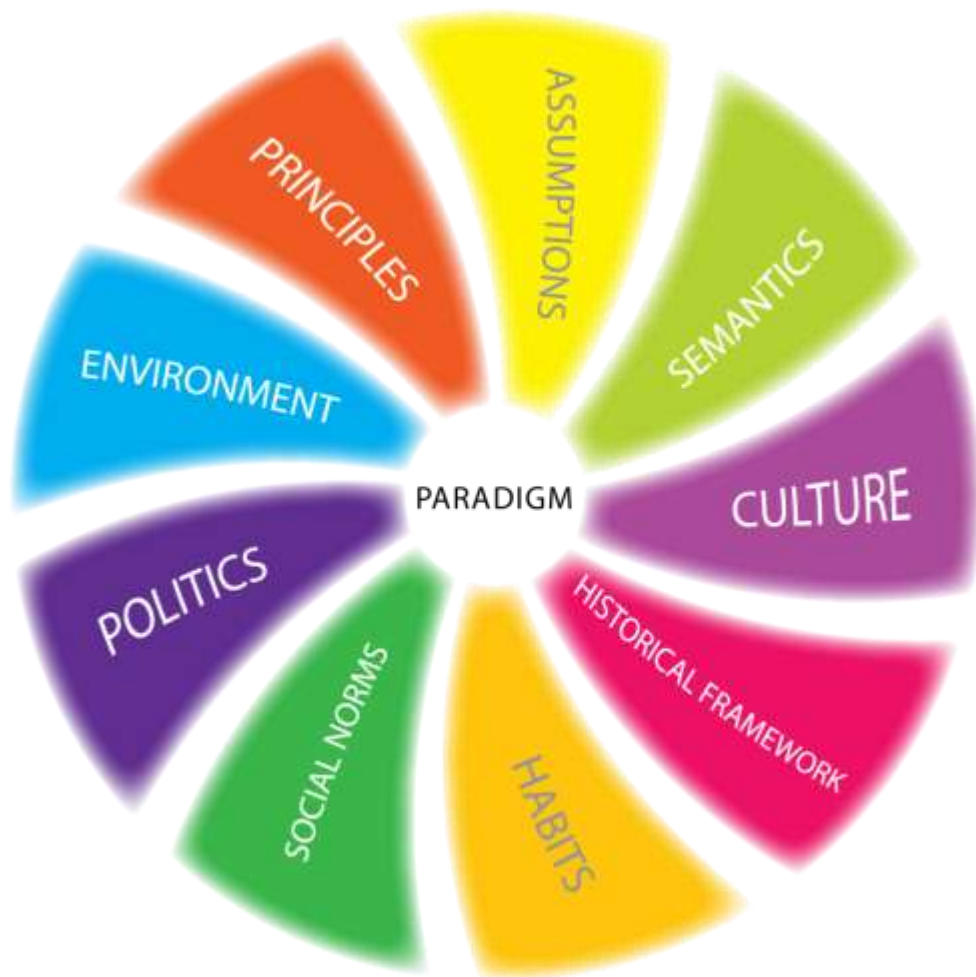


Figure 5. The construct of a paradigm.

The fields of business and design are both diverse and vast in the practices that they respectively encompass, and to address all individuals within each field as though they conform to a specific stereotype is a gross overgeneralization. Up to this point the definitions of businesspeople and designers have been vague suppositions based on adherence to career path. Roger Martin's **Validity vs. Reliability** concept may help to clarify some of this ambiguity. In 2005 Martin explained the differences reliability-oriented, and validity-oriented thinking. He described reliability as the application of objective data to yield consistent and predictable outcomes. Contrastingly, he asserts that validity endeavors to reach desired outcomes and objectives even if predictability and consistency cannot be achieved by the system employed (Martin 2005, 5-6). In 2007 he then used his definitions to explain what he called the "fundamental schism between designers and executives" (Martin 2007, 6), arguing that the majority of designers fell into the validity-oriented thinking camp and that business executives were predominantly of the

reliability-oriented thinking persuasion. He also acknowledged the possibility of oversimplification which he addressed in the visualization that can be seen in Figure 8. Martin's definitions help to clarify the conflicting thought processes across the fields of this thesis and will therefore be examined a little more closely.

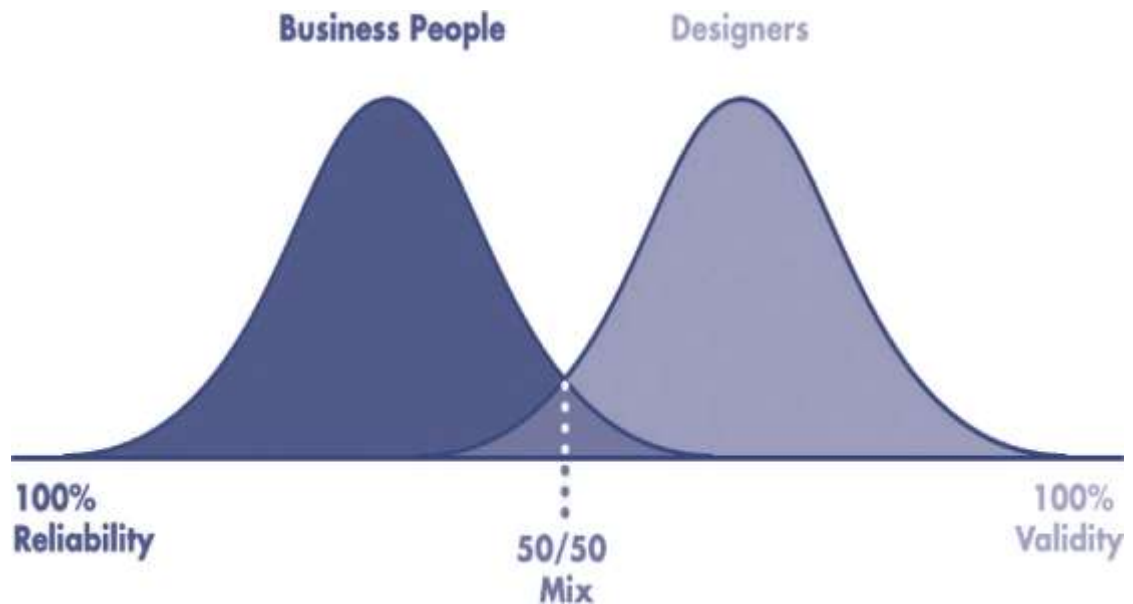


Figure 6. Reliability vs. Validity. (Source: Martin 2007, 8)

Reliability-oriented thinking is based on a thought process that strives to produce consistent, predictable and re-producible results through the application of objective data. Quantitative data collection and analysis are often the hallmarks of reliability based processes. Efficient productivity and low risk undertakings, as favored throughout the history of management theory, based on quantifiable and objective data are a perfect example of reliability-oriented thinking. There is a mechanical nature to the expectations of the business world that that embraces a reliability approach. Evidence therefore exists that Martin's assertion that business people trend more toward a reliability-oriented approach is sound.

With validity-oriented thinking, the benefits of reliability approaches (consistency, predictability) are often surrendered in order to provide more relevant or appropriate outcomes. An example of a validity approach in the design world is the use of co-creation. Co-creation is a design process in which all stakeholders are involved. This type of process can lead to more valid results, but can also be quite unpredictable in its final destination. The inclusion of users and other stakeholders seen in modern design thought and practices shows a tendency within the field toward validity-oriented systems. Validity based thought also shows a greater emphasis on empathy that is not seen in the mechanical models of business. The tools and techniques used by designers seem to support the idea that the majority of individuals in the field have a preference towards validity based systems.

3 PERCEPTION OF CHARACTER

To better understand the paradigms in question a questionnaire was carried out with students in the beginning stages of their higher education (Appendix 1). The purpose of the questionnaire was to study the attributes that each field believes to be prevalent within their own, and each other's discipline. Also, the questionnaires looked at how the students self-identified. Self-identification is an important area of investigation to this thesis as it has a bearing on how unified the members of each professional community regard themselves to be, and therefore how strongly they are likely to hold the values of a group paradigm. The questionnaire was carried out with fifteen design students in their second year of bachelor level studies along with thirty six first year bachelor level business students. Of the total fifty one students questioned 41% had some form of experience in dealing with people from the opposite field (e.g. businesspeople with designers).

The questionnaire looked at the types of personality traits associated with both business people and designers. To build the questionnaire a number of sources were used (see reference section) to build a collection of as many character traits as possible. From that collection a list of twenty four traits were selected by eliminating some options considered too much like others, and attempting to balance positive and negative selections. The students being tested were asked to choose up to five character trait options. Figures 7 and 8 are graphical representations of the results of this part of the questionnaire, in which the size of the ball depicts the number of respondents to associate that trait with people in the field.

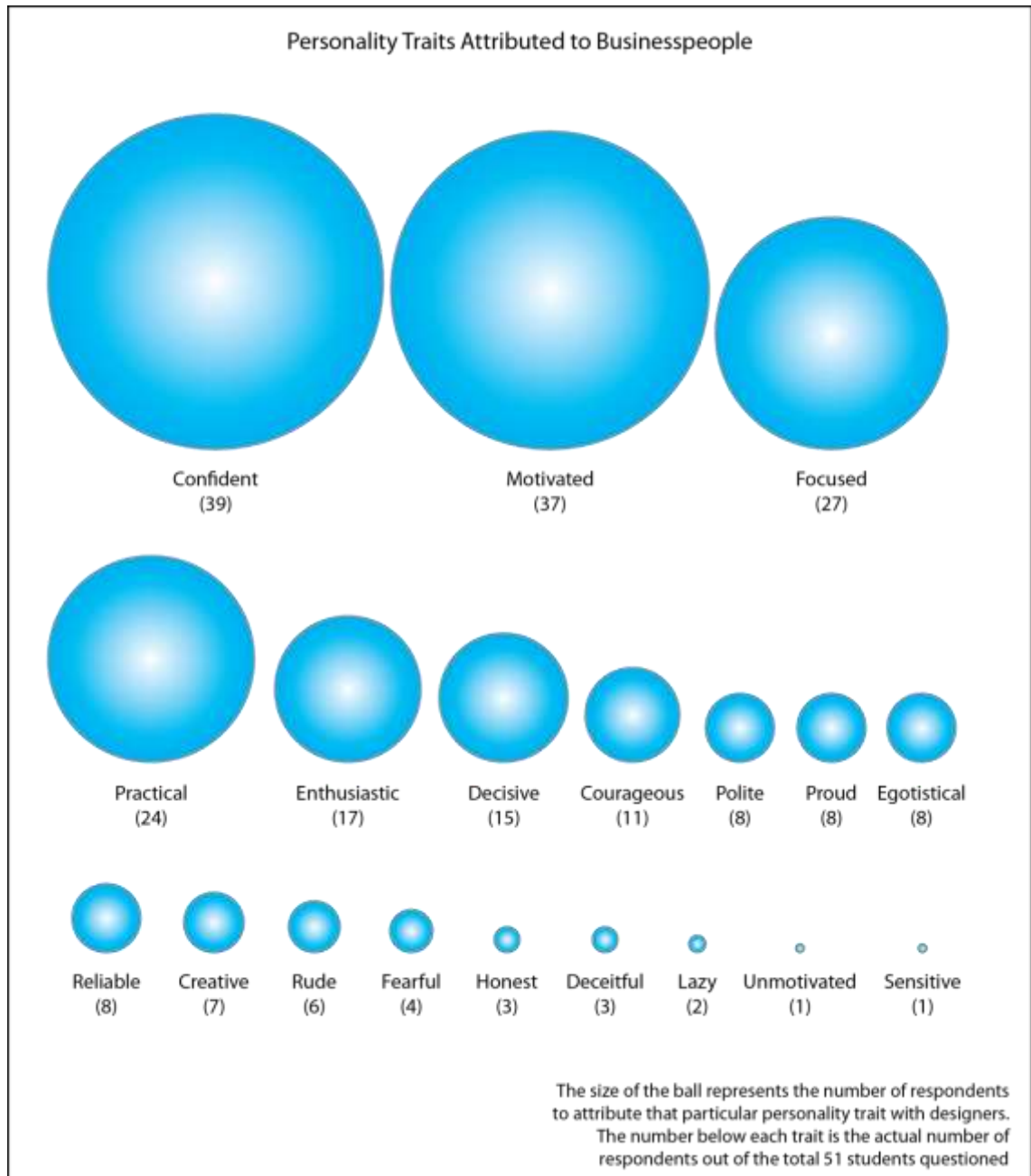


Figure 7. Personality traits attributed to businesspeople.

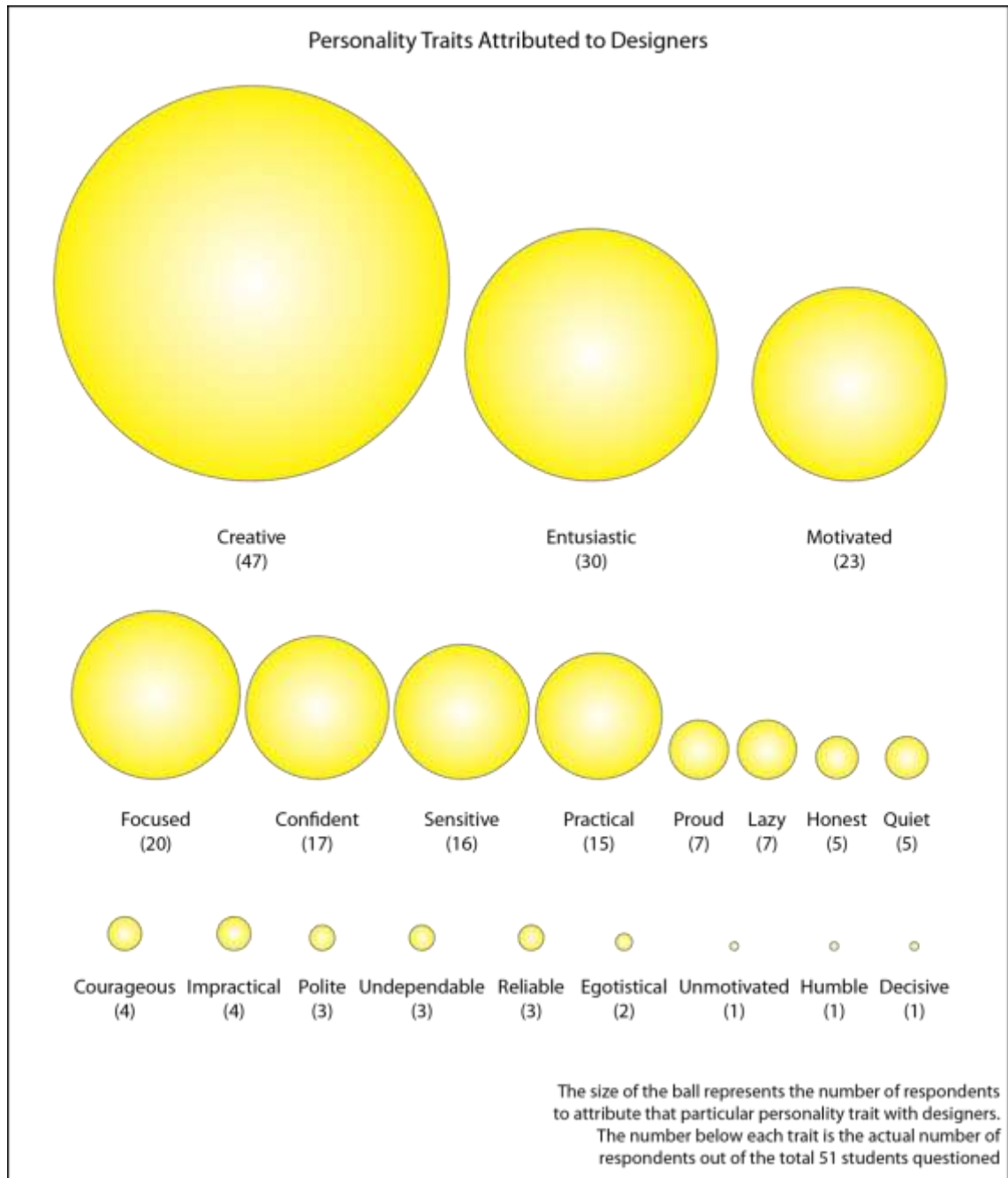


Figure 8. Personality traits attributed to designers.

The results showed a difference in the main traits being associated with people from each field. The number one personality trait attributed to businesspeople was that of confidence. Being motivated, focused and practical were traits that were also strongly related to businesspeople. Confidence and practicality are traits that sit well with Martin's reliability description. Designers were overwhelmingly described as being creative, with 92% of respondents attributing that characteristic to people in the field. The issue

of creativity is explored further later in this chapter and again during the group interview conducted as a part of this paper and discussed in chapter 6. Being enthusiastic, motivated and focused was all greatly associated with designers also. Another stand out trait assigned to designers was that of sensitivity. The trait of sensitivity was linked to designers by sixteen of the respondents, while only one equated it to being a trait of a businessperson. This particular difference may have its base in design's empathetic and validity driven approach to problem resolution. The perceptions of people starting out in the respective fields appear to support the suppositions made thus far.

In the psychological field, the concept of a **Five Factor Model (FFM)** of personality is a theory that enjoys wide-spread support (Pervin 2003, 47). This theory states that people can be categorized into one of five personality groups; Neuroticism, Extraversion, Openness to Experience, Agreeableness and Conscientiousness. When comparing the results of the questionnaire with the personality types described in the FFM it can be seen that businesspeople fit suitably into the conscientiousness group, while designers could be more accurately described as belonging to the openness to experience group (Figure 9). Trait theory suggests that, at least to some level, the personality group that one belongs to is the result of genetics (Pervin 2003, 51). This could explain why certain people are drawn to the fields of business and design, and why integration has proved somewhat difficult to achieve. This fact should be taken into account when searching for reasonable solutions.

Designers were overwhelming described as being creative. Creativity as a trait is associated with the way in which people think and is therefore pertinent to this study. Thought processes can be described in many ways, one such explanation is the idea of convergent verses divergent thinking. In this model convergent thinking consists of the "reproduction of existing data and adaptation of old responses to new situations in a more or less logical manner" while divergent thinking is "characterized by flexibility and originality in the production of new ideas" (Gomez 2007, 33). From these definitions it can be seen that the reliable and logical business paradigm thus far is of a more convergent nature. Designers on the other hand are more prone (in the initial stages of their work at least) to a divergent thinking model. As mentioned in the previous chapter

design work is often concerned with the solving of wicked problems and the nature of those problems leads designers to look for the most valid solutions. To achieve valid solutions a thought process in which one begins with a divergent thinking approach to acquire all possible data before applying that data in a convergent manner such as that depicted in Figure 9 can be employed. It is in this divergent stage of a designers thought process that creativity is probably perceived.

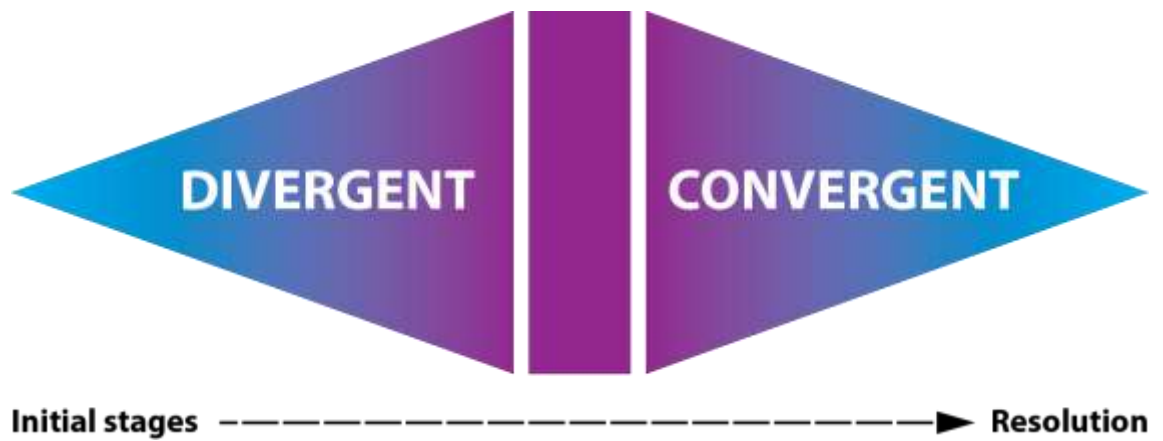


Figure 9. Creative process.

4 BENEFITS OF SUCCESSFUL INTEGRATION

As shown in the literature review, case studies can be effective tools in strengthening academic arguments. So far, it has been shown that while the fields of design and business are symbiotic in their existence there is a paradigm gap between the practitioners involved. This paper has also looked at the types of paradigms inherent in each field and the frameworks on which they have been constructed. The facts that remain to be shown, however, are the potential benefits of better integration. As Kotter and Rath explain, “Design is a potent strategy tool that companies can use to gain a substantial competitive advantage. Yet most companies neglect design as a strategy tool. What they don’t realize is that design can enhance products, environments, communications, and corporate identity” (Kotter and Rath 1984, Abstract). This chapter of the research looks at the ways that existing firms have prospered through strategies that have included business models integrated with a design approach. By pointing out the benefits of successful integration the author hopes to provide encouragement toward similar strategies being adopted.

Steelcase is a multinational firm based in Michigan, USA which has had a focus on office furniture and related products since its origin in 1912. The company was initially founded as The Metal Office Furniture Company and became Steelcase in 1954. Their first patent was granted in 1914 for a fireproof metal wastebasket made of metal rather than traditional materials, and over 1300 patents have been received by the company in the time since. Employing approximately 10,400 workers Steelcase has a number of sub-brands and a number of offices and facilities spread throughout the world. They are the self-described “global leader in creating great work experiences in business, education and healthcare environments.” (Steelcase Inc. 2013). Steelcase is of interest to this study because although their customers are other firms the focus for their research and development sector, as can be seen by the use of the term experience in the company’s description, has been on the end users.

The commitment to its vision of providing not just products but experiences has been evident throughout the history of Steelcase. In 1953 the firm's (then still The Metal Office Furniture Co.) leadership showed this commitment by introducing the Sunshine Styling furniture line, an industry first in that it was available in several colors. Up to that point office furniture had been very utilitarian. In 1994 James Hackett was elected as Chief Executive Officer and continued in that role up until 2013, Hackett was devoted to the company vision and oversaw several initiatives to see the vision fulfilled, such as the Workspace Futures group. The research conducted by the Workspace Futures group has enhancing user experience as its goal and is predominantly user-focused in its activities. Hackett holds strong beliefs in the benefit of using design tools and techniques in a management role, stating in 2009 that the use of design thinking can lead to a realization of potential and act as an innovation driver to help firms succeed and achieve economic sustainability (Hackett 2009, 85). As early as 1996, Hackett's faith in design thinking was evident when Steelcase made an equity investment into and thereby owned a majority stake in the design firm IDEO, now a widely recognized authority in the sphere of design.

The current President and Chief Operating Officer of Steelcase, James Keane has also a dedication to the user-centric strategy embraced as part of the company's self-identity. In a 2009 interview he explained the virtues of understanding stakeholders from outside of the company, such as the users, distributors and the design community at large. He stated a belief in the fact that Steelcase's "success comes from being externally rather than internally focused" (Keane 2009, 6). Steelcase has shown a design-thinking and empathy based mindset in many of its development and management strategies, and includes the vision of providing better user experience as part of its self-identity.

The outcomes for Steelcase's strategies show the value of management policies that include validation, and user empathy structured design goals. The healthy existence of the Steelcase Company is a testament to the success of its integrated strategy. In an era of drastically diminishing life expectancy amongst large firms, having fallen from around sixty years in 1960 to as little as eighteen years in the current economic climate (Foster 2012, 2), Steelcase has just celebrated its one hundredth birthday. In 1968 it was

designated the world's largest manufacturer of office furniture, and has remained one of the global industry leaders since. Naturally, a company that has office furniture as one of its core products felt the repercussions of the 2007-2008 financial crises, but Steelcase has managed to retain a large market share and has regained much of the shareholder value that was lost during that period (Figure 10). Steelcase's success reinforces the premise that a business management strategy based on an integrated design model can produce favorable economic results.



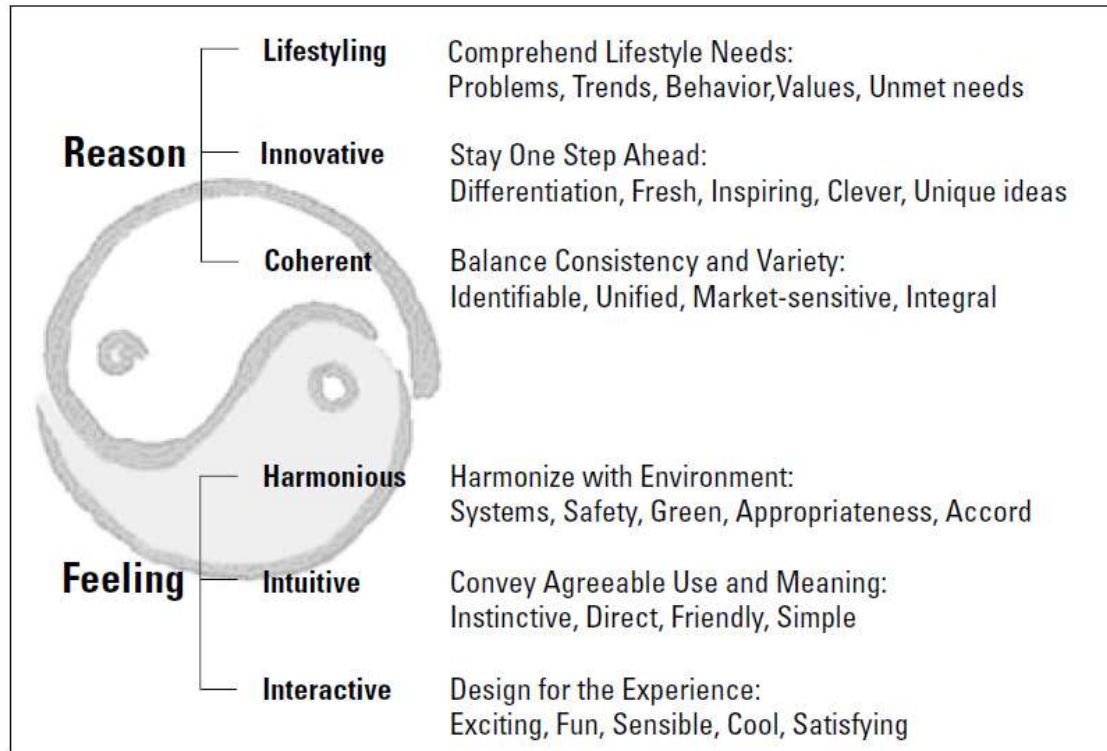
Figure 10. Steelcase share price chart. (Source: www.nasdaq.com, 25.02.2014)

Samsung Electronics Company (SEC) is a South Korean company that has successfully integrated elements of business and design into their business model with strong results. SEC was founded in 1969 as a subsidiary of the Samsung Group, which was in turn founded in 1938 by Lee Byung-chul as a trading company. During the seventies, SEC established itself as a successful manufacturer of such products as television sets and memory chips as well as other household appliances. Since the launch of its first mobile phone in 1988, SEC has steadily grown to having one of the largest market shares in both the mobile phone and smart phone sectors in recent times (www.idc.com 2014).

Even through SEC's success it has maintained a healthy view of its future prospects, in 2010 chairman Lee Kun-hee (son of original founder Lee Byung-chul) admitted that in as little as ten years the products made by SEC could be obsolete (Taipei Times 2010). This type of sober outlook on future competitiveness has led SEC to develop a strong emphasis on design. The continued success of SEC shows the benefits of a business model that relies heavily on design as a method of providing economic sustainability.

In 1987, following the death of his father, Lee Kun-hee became the chairman of SEC and began to direct the company down a design oriented path. In 1990 he made moves such as creating an industrial design department, and assigning a designer to the managerial role. The **Year of the Design Revolution** was announced by Lee in his 1996 New Year's Address in which he asserted the "an enterprise's most vital assets lie in its design and other creative capabilities"(Lee 1996). As part of this initiative design and design management principles were introduced to around two hundred employees from senior management positions over a two-day course (Freeze and Chung 2008, 7). By his actions it can be seen that in the early years of his chairmanship, Lee had decided the strategic direction of the company should rely heavily on design.

American design strategist and former head of IBM's design program Tom Hardy worked with SEC between the years of 1996 and 2003. Hardy helped to create a model for realization of SEC's design focused strategy. The model, visual depictions of which can be seen in Figure 11, encouraged a corporate tone that was dubbed the **Balance of Reason and Feeling** (Hardy, Chung and So 2000). The nature of the balance that was promoted in this model is an example of how SEC has integrated design philosophies into its business strategy. By creating and implementing a set of concrete working principles SEC, with the help of Hardy, was better able to realize its design focused strategy.



Universal principles act as a master checklist for design concept development and performance measurements for individuals.

Figure 11. Balance of reason and feeling. (Source: Hardy et al. 2000)

The year 2005 saw the birth of SEC's **Second Design Revolution**, following which the company has reaped numerous design awards and become the market leader in several product classes. New directives were given by Lee Kun-hee at the opening of SEC's Milan design center that further emphasized the company's design lead strategy. He advocated themes such as the recruitment of the world's best designers that SEC might be able to create remarkable designs (Freeze et al. 2008, 9). Research and Development spending that year was 6.82% of the SEC's revenue, and that proportion of reinvestment has been relatively maintained during recent years as can be seen in Figure 12. In their 2013 Sustainability Report, SEC boasted the top market share in six different product classes. The goals laid out by Lee in 2005, such as recruiting and securing talented designers and creating a corporate environment in which creativity could be nurtured (Freeze et al. 2008, 9) were put into practice and were able to yield results.

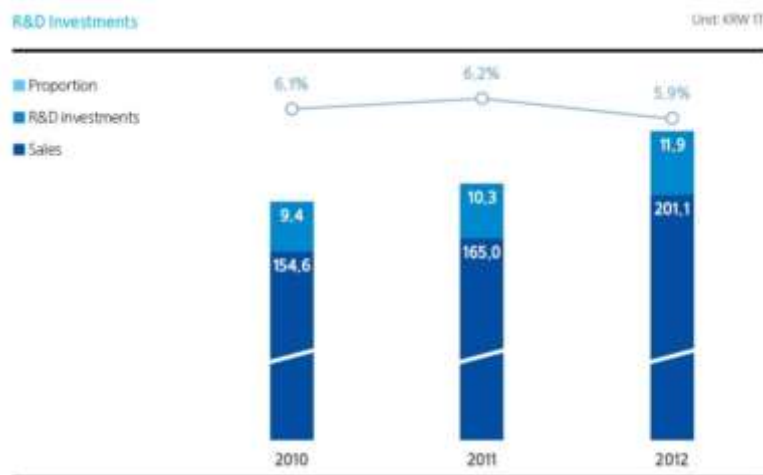


Figure 12. SEC research and development investments. (Source: Samsung Electronics 2013 Sustainability Report, 64)

Decades of design lead strategies have lead SEC to be a very successful company. In 2012 the company attained an industry record in operating profits and despite global economic woes had managed to maintain the growth it had experienced since the turn of the century (Figure 13). The company currently holds a 30.4% market share in smartphone sales and 25.1% in total mobile phones as well a 35.4% market share in semiconductors (SEC 2013). Despite these encouraging numbers SEC continues to hold a realistic view on future performance and as such continues to invest heavily in research and development and design initiatives, a strategy that has been proven as successful. The results of SECs design lead strategy show how such management directions can be extremely beneficial in real world terms.

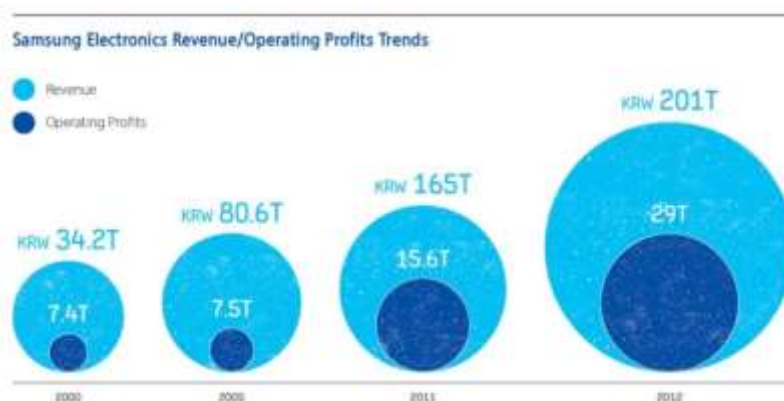


Figure 13. SEC revenue/operating profits trends. (Source: Samsung Electronics 2013 Sustainability Report, 8)

5 GROUP INTERVIEW WITH EXPERTS

The literature review at the beginning of this paper identified three reference tools that have been successfully used by authors when approaching the topic of the integration of business and design. The tools were identified the reviewing of existing research, case studies and the use of knowledge gained through professional experience. Having already made use of the former two in previous chapters, this chapter is dedicated to latter. As the author has little previous professional experience in either field of interest it was necessary to invite experts from the fields to take part in interviews. It was decided that the most productive form of interview would be in a group setting, so that the individuals involved could elaborate on each other's comments and be allowed in this fashion to steer the conversation in directions that may have otherwise been overlooked. A group interview was therefore conducted to ground some of the ideas brought forward in this thesis in the real world, as experienced by the interviewees.

Experts were chosen from the fields of business and design in a manner intended to create a balance during the interview. The first interviewee was Heikki Koivurova, an experienced and successful Finnish product designer. The second, Pablo Riquelme is a designer that also holds an MBA and is currently involved with design work in conjunction with the city of Helsinki. The third, Dr. Jeanne Liedtka, is a faculty member at the University of Virginia's Darden Graduate School of Business where she teaches, among other subjects, design thinking to business students. And the fourth, Mikko Koponen, is an experienced manager who currently acts as the General Manager at Kithydro Oy, a large hydraulics company that operates throughout eastern Finland. Each of the interviewees has experience in one or both of the fields of interest.

The group interview was conducted on the 25th of March, 2014, by the author at Karelia University of Applied Sciences. Due to the busy schedules of the interviewees and the time difference between Finland and the USA the organization of the interview presented some challenges, all of which were overcome without too much difficulty. As the

interviewees reside in different parts of the world it was necessary to connect to two of them via a Skype conference call. Koivurova and Koponen were present in person while Riquelme and Liedtka called in from Helsinki and Virginia, USA, respectively. The interview lasted approximately one hour and covered several topics, some of which are discussed below. The questions and topics as they were planned can be seen in Appendix 3, although due to the intended conversational manner of the interview the themes discussed were not necessarily covered in full accordance to the plan.

The results of the questionnaire conducted earlier in this thesis showed that there was a perception that designers were creative, while businesspeople were not. During the interview a question about this perception was posed. Koponen expressed that while the levels of creativity needed in the operations of businesspeople were less, there were still times when creative solutions were necessary. He made the analogy that while designers have a level of creativity that might create works of art; businesspeople are at the level of “rough sketching”. Liedtka expressed an opinion that the education of businesspeople had an effect on this perception, as businesspeople are told that they are not creative. Also that, as discussed in an earlier chapter, the training of businesspeople is aimed at being able to provide reliable, repeatable results and as such creativity is discouraged. Creativity, it was agreed, was not non-existent in businesspeople but rather repressed by business education as it was considered as the riskier of two management strategies, a point that the case studies of Steelcase and SEC call into question.

One’s education can play a role in one’s adherence to a group paradigm, and the subject of education was discussed by the experts. While Koivurova commented that “there is no such thing as unnecessary education” (in the sense that all knowledge gained is beneficial) the styles of education could and should always be reviewed. For better integration, he recommended a teaching system involving a five day roster in which the first two days be theory in one’s own field, the third day be project work with an interdisciplinary team, and the final two days spent again on field specific skills. Riquelme recalled his time in an integrated master’s program and that in the beginning there had been some problems with working alongside people from other fields. Liedtka warned that interdisciplinary work that began in the initial years of education led to a delegation

of the workload, in which each individual was assigned the work of their specialty and the benefits of the integration were reduced. She suggested that the rigidity of teachers to set norms was a major issue, and that integrated education might benefit from teaching across fields in the earlier years, and then encouraging interdisciplinary work as one's education progressed. The consensus on the issue of education was that the onus was predominantly on the educator rather than the student.

Koponen raised a question about how designers promote their services, when the process can be unclear at the beginning. All agreed that clear goals are paramount in strategic planning, however the time consuming process of design seemed to concern Koponen as a manager and he was interested in how designers "sell themselves". Success stories and previous achievements seemed to be the most useful tool in this endeavor. Similar to the conclusions made earlier in the literature review in which such tools as experiential anecdotes and case studies were identified as the most advantageous, it appeared that in the experts opinion previous success was the most valid selling point for the design process. Riquelme mentioned that general awareness of design methods also played a large role. He had noticed that Helsinki's role as the World Design Capital in 2012 had created such awareness, which aided him in his current work with the city. Awareness and successful experience were identified as the major selling points of a design process.

The group interview proved quite valuable to the thesis process. It explored the issue of creativity that was brought forward during the questionnaire conducted amongst students. The role of education in the formation of a field specific mindset was discussed, as well as ways in which educational practices might be improved. The theory that experience is one of the most appropriate tools for promoting integrated working models was reinforced and elaborated upon. The information gleaned from the group interview was beneficial to this work and forms, along with all previous research conducted the foundation upon which the model of the following chapter is constructed.

6 DISCUSSION

The goal of this thesis report was stated as finding practices that aid in the better integration of business and design, with the further purpose of benefiting of both fields and thereby increasing the validity of the actions of firms and strengthening those firm's chances of long term success. Due to the differences in paradigms pointed out in this report it can be seen that the first step in achieving an enduring integration of the disciplines is to bridge the paradigm gap that currently exists. Before jumping into the deep end of integrated work as a concrete practice it is important to reconcile the paradigms at play so that the two disciplines might be able to empathize with each other. Through bridging the paradigm gap integration can be made more effective through the mineralization of conflict that might otherwise occur. Throughout the paper three tools have been identified as being the most promising when conveying the focus issues to readers in a way that suitably explains the benefits of an integrated approach i.e. existing research, case studies and confirmation from those with experience. These tools, in combination with the insights attained from the research involved in this work have yielded a model, that if followed could assist in bridging the previously mentioned paradigm gap that exists between the fields. The model described in this chapter therefore forms the results of this thesis, through which the author believes its goals could be reached.

The research conducted has led to the construction of a planned four stage action cycle. The four stages can be abbreviated to: Define, Educate, Encourage and Reinforce (DEER). Implementation of the DEER cycle, as can be seen below would take the cooperation of many different agents within society. If successfully adhered to, however, the potential to achieve the goals of this thesis would not be beyond reach. It is possible for firms to increase the validity of their actions by integrating design paradigms into their management practices. More valid action processes can lead to both the adding of more valuable experiences to the products or services that firms provide and upholding the ethical responsibilities to their stakeholders. And most importantly, these actions need not reduce the firm's ability to provide profits to its owners. As explained earlier and with reference to Martin's work, design processes look to provide more valid solu-

tions to problems, therefore, the key to increasing the validity in the actions of firms and strengthening those firm's chances of long term success is the integration of design processes into management behavior.

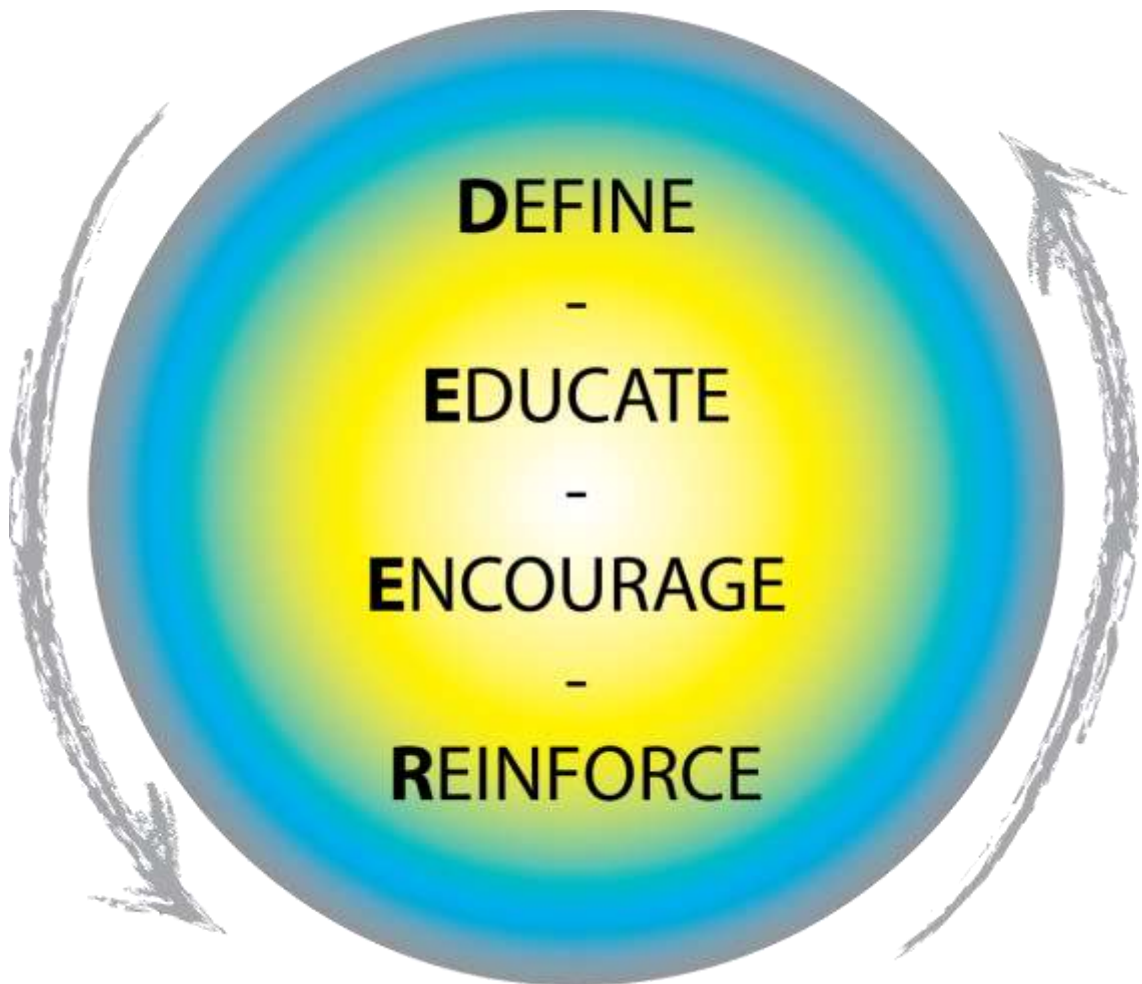


Figure 14. The DEER cycle.

The first stage of the DEER cycle is to properly define both the issue and the benefits that can be reaped from the successful integration of business and design. To properly define the issue in a way that will achieve the most impact on the mindsets of the fields involved, the actions should be taken during the earlier stages of higher education. During the early stages of a comprehensive business curriculum, educators must pave the way for the integration of design processes and make the benefits such methods can have to economic sustainability known. The pitfalls of short term business tactics based on such things as shareholders primacy (explained briefly below) should also be pointed

out to students beginning in the field, and the validity approach of design methods offered as a viable alternative. While a design process may not be suitable to all management decisions, the option to use such a process should be open to managers as a strategic tool. The three tools identified in this thesis could be used effectively in defining the need to integrate the two fields.

To be effectively implemented, the definition stage must also be applied to society as a whole. A public awareness campaign should be included as part of the actions of the first stage of this model if it is to be successful. The means to achieve this campaign need to be explored in detail and as such will not form part of this paper. However, the benefits of integrated methods have the potential to be felt by all stakeholders of any firms adopting them and therefore the author hypothesizes that a well-planned and effectively explained public awareness campaign would be well received. A strong and well understood definition of the benefits that can be had from an integrated approach for both the people involved in the fields and society at large therefore make up the first stage of the DEER cycle.

One aspect of modern management understanding which runs contradictory to the values of design is that of shareholder primacy. This is the assertion that the primary responsibilities of a firm is to its shareholders. A shareholder primacy approach to management has the potential to lead to tactical decisions that will harm the long term economic sustainability of a firm in place of decisions that will achieve stronger short term profitability. Business tactics with an emphasis on short term profitability can include actions that directly affect the ability of a firm to integrate design values, for example; a firm that cuts spending to research and development may be able to show those savings as extra money in its accounts in the short term, but the effects of not investing could lead to a reduction in the firms long term competitiveness. The sentiment that shareholder primacy theory is flawed is promoted by expert Lynne Stout in her book, *The Shareholder Value Myth: How Putting Shareholders First Harms Investors, Corporations, and the Public*. Stout argues that shareholder primacy leads to practices that are detrimental to all stakeholders. She explains that contrary to common understanding, shareholders are not the owners, the principles nor the residual claimants of public cor-

porations (Stout 2012). If these misconceptions can be overcome there can be room for a new paradigm, one that meets designers halfway and looks for long term strategic solutions.

Education is the second stage of the DEER cycle, as it plays an extensive role in the development of both an individual and a field-wide mindset. The suggestions made here for an educational model that would be most advantageous to the integration of business and design is built on the ideas of the experts Liedtka and Koivurova during the group interview stage of the thesis. During educational stages, the idea of predisposed personality types being drawn to the fields in question should be remembered. Educational practices should be able to support students who may not feel comfortable dealing in manners outside of those that they are accustomed to. Time must be taken to properly impress the benefits of cross-disciplinary teaching. Two suggestions that could work towards this purpose surfaced during the group interview.

Liedtka had pointed out that the rigidity of teachers in their adherence to the accepted theories within their specific field could lead to a narrowed experience for students. She had proposed that in the initial years of higher education it would be advisable for students to attend classes taught by teachers from outside their specific field. The way in which the current curriculum for the international business and design programs is organized at Karelia University of Applied Sciences is a good example of such a strategy being put into practice. Unfortunately the recent decision to discontinue the design department at that university will put an end to what is a mutually advantageous system for students from both fields (it is the author's opinion that this decision will be to the detriment of future business students, a sentiment reinforced by the findings of this research). Interdisciplinary project work is an educational practice that Koivurova asserted should be carried out as part of a comprehensive curriculum. The act of working alongside cross-discipline students might help to build a maintainable rapport that could be carried into one's professional life. Through simple integrated curriculums education can assist in producing an integrated paradigm in which the values of business and design can be combined.

The third stage in the DEER cycle is to encourage the successful integration of business and design. The benefits of an integrated model of management would affect all stakeholders of a firm. Internal stakeholders (owners, shareholders, employees etc.) are the obvious recipients of a model that promotes long term economic sustainability, in that their profits and employment will be more secure. External stakeholders, however, such as distributors, customers, government and society etc. also have a vested interest in an integrated model being adopted. The results of design driven empathetic strategies on customers and society is one intended to be beneficial in their very nature. Distributors and governments and again society have a potential gain through stable economic conditions that could be achieved. It is therefore the role of all stakeholders to encourage the behaviors of an integrated model. Societal pressure should be exerted on firms to perform in long term interests. Users need to demand products and services that are the result of good design, and reward such goods with customer loyalty. Governments can encourage integrated models by legislating to the advantage of those that choose management approaches to that effect. The encouragement and support of stakeholders is an essential stage in realizing an integrated model of management.

Large events that bring the benefits of integrated strategies to light can help in the encouragement stage of the DEER cycle. During the group interview Riquelme stated that Helsinki being the 2012 World Design Capital had created a better awareness of design methods and benefits. Events such as this could be an excellent way to begin discourse on the subject of better integration both among the disciplines concerned and the greater public. Organized events are, therefore, one possible way of putting the encouragement stage into concrete practice.

The final stage of the DEER cycle is to reinforce any progress that might be made. Again, this will require action from all agents involved. A good design process is often iterative, moving forward in small, sometimes experimental, steps. In keeping with this notion the model of the DEER cycle should be kept as fluid as possible, if particular actions are proved to be successful they should be maintained while the ineffective are discarded and replaced. During the group interview it was agreed by the experts that the best way to promote a design process was by giving examples of previously successful

endeavors. Hence the final stage of the DEER cycle is dedicated to ensuring that any successful progress of the model, along with the benefits that progress provides to different stakeholders is made known. The reinforcement of the final stage may then become a part of an ever improving definition of the model, making the entire cycle one that may constantly improve itself.

7 CONCLUSION

The subject of business and design integration includes many vast and complex facets. While the author has endeavored to cover as many of these facets as possible there is still much room for additional study. For example, the character traits attributed to people in each of the focus disciplines is based on the perceptions those interviewed in the questionnaire stage of the research. More thorough investigation could be made to confirm or deny these perceptions thereby strengthening the assertions made in this report. Also, while the DEER cycle provides a foundation for moving the fields of business and design toward better integration more research could be done to provide effective concrete actions to be taken during each stage. Overall, however, the author feels that this work has provided a sturdy footing from which further progress can be made.

Better integration of the fields of business and design has the potential to lead to benefits that will be felt throughout society. The fields themselves can gain from a better understanding of each other's methods, as Koivurova stated in the group interview "there is no such thing as unnecessary education". Firms adopting integrated models can improve their chances of long term economic sustainability, as can be seen by the examples of Steecase and SEC. And all stakeholders of such firms, from employees and distributors to customers, governments and society can see the benefits of that sustainability. Better integration can be achieved through the application of the model built as a result of this research. The DEER cycle can be applied such that it will continually im-

prove itself, and while more study is needed to perfect the forms of its application the model can serve as strong foundation for better integration. As the model prescribes, the first stage is to define the possible benefits to those that will feel their effect.

As an individual the author may appear to have but a small voice when measured against the needs of the DEER cycle. Many small voices when combined, however, have the potential to become mighty cheer. As a designer one can but play his role; help to define the issue (as has hopefully been done in this report), educate those in one's professional and social sphere of the benefits of integrated strategies and encourage firms that adopt such strategies. Through the actions of an individual designer the sentiments of this thesis can be reinforced. By understanding that the differences between the fields are based on a differing paradigm and having the patience to try and bridge that paradigm gap the individual designer can help to achieve a better integration of business and design.

REFERENCES

- Best, M and Neuhauser, D. 2006. Walter A Shewhart, 1924, and the Hawthorne factory. Available at: URL: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2464836/> 23rd January, 2014.
- Bouchard, V and del Forno, L. 2012. The future of management as design: a thought experiment.
- Brown, T. 2008. Design Thinking. The Harvard Business Review, pp85-92, June 2008.
- Buchanan, R. 1992. Wicked Problems in Design Thinking. Design Issues 8, No.2, 1992. pp 14-19.
- Cox, Sir G. 2005. Cox Review of Creativity in Business: building on the UK's strength. Available at: [URL:http://www.designcouncil.org.uk/Documents/Documents/Publications/Research/Cox%20review%20%282%29.pdf](http://www.designcouncil.org.uk/Documents/Documents/Publications/Research/Cox%20review%20%282%29.pdf) (as of 22.10.2013)
- Dodd, T. 2014. Why design thinking is the thing in business schools. Financial Review. Available at URL: http://www.afr.com/p/boss/why_design_thinking_is_the_thing_i1NUwTYeU70v4GVO5o6DIK (as of 15.04.2014)
- Fiell, C. and Fiell P. 1999. Design of the 20th century.
- Freeze, K. J. and Chung, K. 2008. Design Strategy at Samaung Electronics: Becoming a Top-Tier Company.
- Foster, R. N. Creative Destruction Whips Through Corporate America: To survive and thrive business leaders must “create, operate, and trade” without losing control. Innosight Executive Briefing, Winter 2012.
- Fuller J. A. and Mansour A. H. 2003. Operations management and operations research: a history and relational perspective. Management Decision 41/4 pp.422. 2003
- Gomez, J. G. 2007. What Do We Know About Creativity? The Journal of Effective Teaching, Vol. 7, No. 1, 2007 pp.31-43. 2007.
- Hackett, J. 2009. Innovation is good, fitness is better.m Journal of business strategy Vol. 30, NO. 2/3, pp85-90, 2009.
- Hardy, T., Chung, K. H., and So, S. T. 2000. Strategic Realization: Building Fundamental design Values. Design Management Journal, Winter 2000 pp. 65-69. 2000
- Kalvianen, M. 2014. Muotoiluajattelu Vai Muotoilutoimintaa? From the book Muotoiluajattelu by Miettinen, S. pp30-47. 2014
- Koontz, H. 1961. The management theory jungle. Journal of the Academy of Management, 1961.
- Kotter, P. and Rath, G. A., 1984. Design: A Powerful but Neglected Strategy Tool
- Kuhn, T. S. 2012. The Structure Of Scientific Revolutions, Fourth edition. (First edition published 1962) pp.43
- Levinson, M. 2006. The Box.
- Martin, R. 2005. Validity vs Reliability: Implications for Management. Rotman Magazine Winter 2005. pp 4-8.
- Martin, R. 2007. Design and business: why can't we be friends? Journal of business Strategy Vol. 28, NO. 4, pp. 6-12, 2007.

- Martinez-Lorente, A.R., Dewhurst, F.W. and Dale, 1998. B.G. Total quality management: origins and evolution of the term. *The TQM Magazine*, vol.10 (5): 378-386, 1998.
- Moritz, S. 2005. *Service Design: Practical Access to an Evolving Field*. 2005
- Norman, D. A. 2002. *The Design of Everyday Things*. 2002
- Pindur, W., Rogers, S. E. and Kim P. S. 1995. The history of management: a global perspective. *Journal of Management History* Vol 1. No. 1 pp. 59-77. 1995
- Powell, B. (Interviewing and quoting Keane, J.) 2009. Steelcase's Jim Keane & Design Thinking Looking at the World as it Might Be. *Office Insight* 03.09.09 pp 3-10, 2009.
- Rampur, S. 2012. Available at: URL: <http://www.buzzle.com/articles/systems-approach-to-management.html> 21st January, 2014.
- Rittel, H. and Webber, M. 1973. Dilemmas in a General Theory of Planning. *Policy Sciences* 4, 1973. pp 155-169
- Samsung Electronics, 2013. *Sustainability Report 2013: Global Harmony with people, society and environment*. 2013
- Santos, A. dos., Powell, J. A. and Sarshar, M. 2002. Evolution of management theory: the case of production management in construction. *Management Decision* 40/8 pp. 789. 2002
- Seddens, N. 2011. *Contemporary Management Theories an Overview of Peters and Watermans Excellence Theory*. Available at: URL: <http://www.insidebusiness360.com/index.php/contemporary-management-theories-an-overview-of-peters-and-watermans-excellence-theory-4572/> 23rd January 2014
- Simon, H. A. 1996. *The Sciences of the Artificial*. Third Edition.
- Stout, L. 2012 *The Shareholder Value Myth: How Putting Shareholders First Harms Investors, Corporations, and the Public* 2012
- Unknown Author. 2007. *Designing Demand*. *Strategic Direction* Vol. 23, NO.7, pp30-32, 2007.
- Watson, Thomas J. 1975. *Lecture, The Art of Design Management: Design in American Business*
- Weaver, P. 2012. Henry L Gantt, 1861-1919 Debunking the myths, a retrospective view of his work. *PM World Journal* Vol. I, Issue V–December pp. 2. 2012.

Other web references:

- URL:<http://www.nasdaq.com/symbol/scs/interactive-chart> (as of 25.02.2014)
- URL:http://secfilings.nasdaq.com/edgar_conv_html%2f2013%2f04%2f19%2f0001050825-13-000083.html#FIS_BUSINESS (as of 27.02.2014)
- URL:<http://www.steelcase.com> (as of 25.02.2014)
- URL:<http://www.idc.com/getdoc.jsp?containerId=prUS24645514> (as of 27.03.2014)
- URL:<http://www.taipeitimes.com/News/worldbiz/archives/2010/03/25/2003468850> (as of 27.03.2014)
- URL: http://www.mindtools.com/pages/article/newSTR_94.htm (as of 19.5.2014)

List of web references used in building personality trait portion of questionnaire:

- URL: <http://examples.yourdictionary.com/examples-of-personality-traits.html> (as of)
- URL: http://psychology.wikia.com/wiki/List_of_personality_traits (as of)
- URL: <http://www.gurusoftware.com/GuruNet/Personal/Factors.htm> (as of)

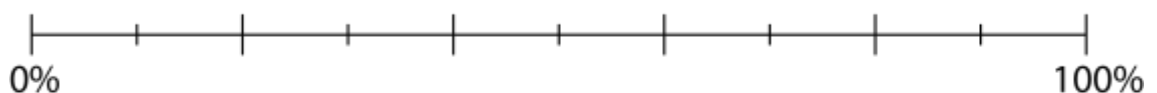
Questionnaire for design students

Please complete the following sentence (Max. 2 words):

When I graduate, the name of my profession will be:

How often do you expect to have to deal with business issues in your future career (as a percentage of your working time)?

Place a mark on the line below:



Which of these character traits do you most relate to designers?

Please tick 1 - 5 boxes:

- | | | | | |
|--------------------------------------|---------------------------------------|------------------------------------|--------------------------------------|---------------------------------------|
| <input type="checkbox"/> motivated | <input type="checkbox"/> enthusiastic | <input type="checkbox"/> focused | <input type="checkbox"/> deceitful | <input type="checkbox"/> undependable |
| <input type="checkbox"/> polite | <input type="checkbox"/> decisive | <input type="checkbox"/> fearful | <input type="checkbox"/> humble | <input type="checkbox"/> confident |
| <input type="checkbox"/> courageous | <input type="checkbox"/> rude | <input type="checkbox"/> honest | <input type="checkbox"/> courageous | <input type="checkbox"/> practical |
| <input type="checkbox"/> unmotivated | <input type="checkbox"/> lazy | <input type="checkbox"/> scattered | <input type="checkbox"/> reliable | <input type="checkbox"/> sensitive |
| <input type="checkbox"/> creative | <input type="checkbox"/> egotistical | <input type="checkbox"/> proud | <input type="checkbox"/> impractical | <input type="checkbox"/> quiet |

Which of these character traits do you most relate to business people? Please tick 1 - 5 boxes:

- | | | | | |
|--------------------------------------|---------------------------------------|------------------------------------|--------------------------------------|---------------------------------------|
| <input type="checkbox"/> motivated | <input type="checkbox"/> enthusiastic | <input type="checkbox"/> focused | <input type="checkbox"/> deceitful | <input type="checkbox"/> undependable |
| <input type="checkbox"/> polite | <input type="checkbox"/> decisive | <input type="checkbox"/> fearful | <input type="checkbox"/> humble | <input type="checkbox"/> confident |
| <input type="checkbox"/> courageous | <input type="checkbox"/> rude | <input type="checkbox"/> honest | <input type="checkbox"/> courageous | <input type="checkbox"/> practical |
| <input type="checkbox"/> unmotivated | <input type="checkbox"/> lazy | <input type="checkbox"/> scattered | <input type="checkbox"/> reliable | <input type="checkbox"/> sensitive |
| <input type="checkbox"/> creative | <input type="checkbox"/> egotistical | <input type="checkbox"/> proud | <input type="checkbox"/> impractical | <input type="checkbox"/> quiet |

Have you had experience working with business people? Y / N

If so, please write anything you noticed during that experience on the back of this page. For example, what differences are there in the working practices business people and designers?

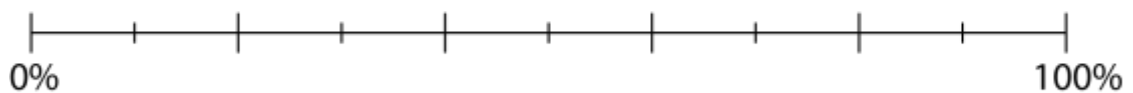
Questionnaire for business students

Please complete the following sentence (Max. 2 words):

When I graduate, the name of my profession will be:

How often do you expect to have to deal with design issues in your future career (as a percentage of your working time) ?

Place a mark on the line below:



Which of these character traits do you most relate to designers?

Please tick 1 - 5 boxes:

- | | | | | |
|--------------------------------------|---------------------------------------|------------------------------------|--------------------------------------|---------------------------------------|
| <input type="checkbox"/> motivated | <input type="checkbox"/> enthusiastic | <input type="checkbox"/> focused | <input type="checkbox"/> deceitful | <input type="checkbox"/> undependable |
| <input type="checkbox"/> polite | <input type="checkbox"/> decisive | <input type="checkbox"/> fearful | <input type="checkbox"/> humble | <input type="checkbox"/> confident |
| <input type="checkbox"/> courageous | <input type="checkbox"/> rude | <input type="checkbox"/> honest | <input type="checkbox"/> practical | <input type="checkbox"/> sensitive |
| <input type="checkbox"/> unmotivated | <input type="checkbox"/> lazy | <input type="checkbox"/> scattered | <input type="checkbox"/> reliable | <input type="checkbox"/> quiet |
| <input type="checkbox"/> creative | <input type="checkbox"/> egotistical | <input type="checkbox"/> proud | <input type="checkbox"/> impractical | |

Which of these character traits do you most relate to business people? Please tick 1 - 5 boxes:

- | | | | | |
|--------------------------------------|---------------------------------------|------------------------------------|--------------------------------------|---------------------------------------|
| <input type="checkbox"/> motivated | <input type="checkbox"/> enthusiastic | <input type="checkbox"/> focused | <input type="checkbox"/> deceitful | <input type="checkbox"/> undependable |
| <input type="checkbox"/> polite | <input type="checkbox"/> decisive | <input type="checkbox"/> fearful | <input type="checkbox"/> humble | <input type="checkbox"/> confident |
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| <input type="checkbox"/> unmotivated | <input type="checkbox"/> lazy | <input type="checkbox"/> scattered | <input type="checkbox"/> reliable | <input type="checkbox"/> quiet |
| <input type="checkbox"/> creative | <input type="checkbox"/> egotistical | <input type="checkbox"/> proud | <input type="checkbox"/> impractical | |

What is the role of design in marketing?

Who are the stakeholders in a company/firm?

Have you had experience working with designers? Y / N

If so, please write about anything you noticed during that experience. For example, what differences are there in the working practices business people and designers?

Themes/Questions for Group Interview

Introduction

By having you here at the same time it is hoped that we can unlock ideas that haven't come up, so please make comments and ask questions.

The language involved.

The word 'designer' is very broad, how do we define it?

How do you compare yourselves to others designers, can the others see the difference?

Is the word design too ornamental? What roles do designers play in modern business?

What is a good term for business people?

Users, customers or clients, how do we refer to people? The customer (person/entity paying for a product or service) is not always the user of that product or service, how do designers/business people take this into account in their actions?

What kinds of people are drawn to the two fields and how are those people perceived by others?

Questionnaires to students show a major difference in the perception of who is creative, what are your thoughts on this?

Stories from your professional experience

How have you experienced the relationship between people from different fields?

Have you had any influences/experiences that have enabled you to see from a different perspective?

(For Liedtka) What lead you to design thinking? Do you consider yourself a designer why/why not.

Reverse the question for designers; how much of their work is business, do they consider themselves business men?

Education

What role does education play in forming a professional mindset? Do strict codes lead to 'us and them' mentality?

What is the future of online education?

Could more open educational curriculums help people to better integrate and understand other fields before entering the workforce?

Open ended

What role does empathy play in the business world? How do you prioritize Short term vs. long term strategies?

A project can take a lot of time and resources, how do people in business and design deal with taking risks/dealing with failure? Is there really a difference in actions or just acceptance, and how to resolve?

A lot of management theory has an emphasis on efficiency and reliability, while design often involves a lot of experimentation while looking for more valid outcomes. How can such differences be reconciled? Are large firms held to the level of social responsibility that they should be?