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# **Service Design**

## **The Cure for Consumers' Time Scarcity**

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## Abstract

This paper investigates whether using design methodology in service innovation can increase adoption likelihood of the service, by helping consumers acquire additional time. The paper identifies three design characteristics of services that create time saving benefits for consumers. This enables consumers to spend time on activities that maximize their subjective well-being, thus increasing their “Return on Time (RoT)”. The main findings conclude that using service design does create time saving benefits, which optimize RoT, and increase likelihood of adoption. By segmenting consumers based on lifestyle in three groups: ‘Young, Free and Simple’, ‘Chaos In My Life’, and ‘Got My Life Back’, the paper looks at differences in perceptions of RoT and Premium Price between segments. However, no significant differences were found. The paper concludes that managers can capitalize on knowledge of RoT and gain higher profitability and competitiveness through the use of design competence.

## 1. Introduction

Continuous innovation is critical for business success, as it is a key driver for competitiveness and economic growth (Grant, 2009). Therefore, innovation has become a top priority with the majority of modern CEOs, and most plan to boost their innovation spending in the near future, as found in a recent survey by Boston Consulting Group (BCG, 2010). Although consumer demand for new solutions is high, and managers are trying to deliver, a vast majority of innovations are never adopted. According to Christensen, Hall and Cook (2005), 30.000 new products hit the market every year, but over 90% of them fail. Generally, services are even more difficult to innovate. So, why are adoption rates so low and what can managers do to increase them?

Turning to emerging consumer trends for innovation opportunities, and creating solutions in sync with these consumer needs can be the answer to the question. Services based on consumer trend-knowledge ensure that solutions are both timely and fulfill a current consumer need; both critical aspects of innovation success (Schneider and Hall, 2011). Basing innovations on current consumer trends ensures that the solution is brought to market at the appropriate time, avoiding the time-lag that may occur from a consumer need is detected until a solution is launched.

In order to address innovation failures, Andreassen, Calabretta and Olsen et al. (2012A), found that one of the most dominant and newest consumer trends is consumers' constant pursuit of a more meaningful outcome of their time, branded "Return on Time" (RoT). This includes consumers' activities and consumption of solutions that allows them to acquire additional time, and then spend that time on self-fulfilling activities. However, no empirical approach has researched how to develop solutions that would address this trend.

To uncover unfulfilled needs from trends, companies need to study their consumers. However, the lack of user-focus in innovation processes may be a reason for the current low adoption rates of innovations: new research conducted in three Western countries: Denmark, Norway and UK, shows that only 17% of companies do user-studies to understand consumer needs as part of their innovation process (Erhvervsstyrelsen, 2008; Norwegian Design Council, 2009; UK Design Council, 2003). This illustrates a dramatic picture considering that 100% of companies have end-users. As such, managers need to better understand the importance of user-studies in innovation, and be shown the tools required to ensure innovation adoption.

The use of design competence in the innovation process has received increasing attention in both business and academia. A study show that 69% of companies that use design in their innovation process have launched a new product or service in the last three years, compared to only 28% who do not use design (Norwegian Design Council, 2009). Due to its user-centered nature, design translates user-information (such as the RoT trend) into solutions that can fulfill current consumer needs. As such, this paper explores whether managers can use design strategically to create solutions that optimize RoT benefits for consumers, thus increasing the likelihood of adoption and lower the risk of the innovation.

Determinants of *innovation success* have received extensive attention in academia (see e.g. Cooper, 1975; 1979; van der Panne, van Beers, Kleinknecht, (2003); Veryzer, 1998), and particularly the need for *user information and user orientation* have been stressed (see e.g. Bilgram, Brem, Voigt, 2008; Chayutsahakij, Poggenpohl, 2002; Crawford, 1979; Von Hippel, 2004;). As such, researchers have looked at *design as a source for user-information* (Jørgensen, 2003; Holt, 1988; Karat, 1997; Vredenburg, Isensee and Righi, 2002), while others consider *design as a strategic tool* (De Mozota, 2003; Nussbaum, (2004); Von

Stamm, 2008). Research has also established designs' positive contribution to new product development (Hertenstein, Platt and Veryzer, 2005; Roy, Riedel, 1997) and business performance (Candi, Gemser, van der Emde, 2011; Gemser and Leenders, 2001). Although service design is a new research area, it is receiving increasing attention (for a basic introduction on service design, see Julier and Moor, 2009; Wetter Edmann, 2011).

New research has emerged with respect to *consumer trends*, which are likely to shift consumer demands (Andreassen, Calabretta and Olsen 2012A; Ofek and Wathieu 2010; Trendwatching.com). As an outcome of demographic, socioeconomic, and psychographic determinants, consumer lifestyles revolve around *time allocation* of activities (Becker 1965; Holbrook and Lehmann 1981; Juster and Stafford 1991; Linder 1970). Previous research on time has focused on *time scarcity* issues (Feldman and Hornik 1981; Garretson and Mauser 1963; Jacoby, Szybillo, and Berning 1976; Linder 1970; Schary, 1971), which represented the motivation for *consumers purchase behavior* in many situations (Jacoby, Szybillo, and Berning 1976), as well as for consumers' pursuit for *convenience* (Anderson and Shugan 1991, Berry et al 2002, Brown 1990, Yale and Venkatesh 1986). However, changes in technology, welfare levels, societal norms and values have reshaped consumer needs concerning time. Time concerns concentrate on optimization of time usage, which has been conceptualized into "Return on Time" (Andreassen, Calabretta and Olsen, 2012B).

Although previous literature has yielded rich information on design, user-focus and innovation, exploring how design helps fulfill *current* consumer needs requires a more pragmatic approach than before. As design is user-focused, it is curious that no research has yet linked it with trend spotting - a well-documented source of current user-information. In addition, despite the fact that previous research has extensively explored the time concept and its linkage to consumer behavior, no research has yet connected time as a consumer trend with the use of design methodology in innovation.

Our research is building on the literature on RoT by uncovering how to create services that meet this trend, i.e. which design characteristics can help fulfill the current consumer need for optimization of RoT, in order to ensure adoption. Managers can incorporate these characteristics in services to make sure they deliver RoT value to consumers. The paper will potentially reduce managers' risk

aversion towards innovation by showing how likelihood of adoption of new services can be increased. In addition, our research explores whether managers can charge a premium price for their value-added proposition. The study also tests whether there are differences in perceptions on RoT and price between three predefined segments: ‘Young, Free and Simple’, ‘Chaos in My Life’, ‘Got My Life Back’.

The research focuses on *consumers* as end-users of a solution, and as such will not include innovation of internal processes (new business model), or internal benefits (cost-reduction), despite this being the focus of many innovation studies (such as Tidd et.al., 2001). While researchers have looked at characteristics for tangible innovations, such as information technology interface (Davis, 1989) or self-service technology (Dabholkar, 1995), our paper will take into consideration design characteristics for services, with different degrees of tangibility.

A conceptual model with causal relationships between design, RoT measure, and probability of adoption as latent variables will be presented.

In the following sections, we will present a literature review that will set the basis for our research, giving an introduction for the concept of design thinking and a summary for the well-researched notion of time. We will continue with presenting our conceptual model, developing the hypothesis, and describing our methodology. Finally, results, managerial and academic implications, as well as limitations and future research will be discussed.

## 2. Literature Review

### 2.1. Design Thinking

Innovation is a challenging process, and companies need all the help they can get in order to create new profitable and timely solutions that fulfill a current customer need. The innovation process is classically recognized by four stages: idea creation, idea selection, idea development and commercialization (West 1997). We suggest that using *design thinking* throughout the innovation process increases the chances of innovation success. In the context of this paper, the term *design* and *design thinking* are used interchangeably, referring to the methods and processes used by **trained** designers. Design thinking has become more popular in recent years as an innovation tool and capability and the effects of design on innovation success have received



increased academic attention. Some explore design's contribution to new product development and business performance (such as Gemser and Leenders, 2001; Hertenstein, Platt, and Veryzer, 2005), while others explore the characteristics of design management (Gloppen, 2009A) and design leadership (Gloppen, 2009B). Businesses are increasingly investing in design and involving design in their innovation processes (Nussbaum, 2004). In addition, the success of major design firms such as IDEO (Kelley, 2001), and the success of major consumer brands such as P&G and Apple using design thinking in new product development, has set the spotlight on design as an innovation tool (Verganti, 2008).

The use of design as an innovation tool has received support from influential governmental groups, such as the Norwegian Ministry of Trade and Industry in White Paper nr. 7: "*An Innovative and Sustainable Norway*" (Norwegian Ministry of Trade and Industry, 2008), and the European Commission in "*Design as a driver of user-centered innovation*" (European Commission, 2009). The current Norwegian Minister of Trade and Industry, Trond Giske, stated: "*the results of using design surprise, engage and exceed expectations*" (Giske, 2012).

As a profession, design has evolved from a product-based practice, born in the industrial age, to a process-based practice in the current information age (Gloppen, 2009A). Design in this context is not an end goal, but rather a process, an action, or a verb, not a noun (Serrat 2010). Although aesthetics are a crucial part of design, design goes deeper than the everyday meaning of the word as it includes other factors such as: user-friendliness, durability, functionality, physical size and weight, branding, technology, environmental friendliness etc. The aesthetic aspect of design can be thought of as a communicator of the core benefits of the solution. As the focus of this paper lies on end-users, the benefits of design for internal company processes are of less importance to our research, but an additional motivation for companies to adopt design-methodology nonetheless. These include improved economies of scale and scope through reducing costs of logistics, manufacturing, maintenance, new product development, marketing etc. (Grant, 2010)

IDEO's former chairman, now chairman of the UK Design Council, Sir George Cox, argues: "Design is what links creativity and innovation. It shapes ideas to become practical and attractive propositions for users or customers. *Design may be described as creativity deployed to a specific end*" (The Cox Review, 2005, 2). In other words, design is a tool that helps transform creativity into successful innovation. Verganti

(2008, 437) argues: “*design is making sense of things*” and “*design is what gives things meaning*”. This illustrates that design goes beyond merely the physical aspects of a product, but also includes its emotional and symbolic value. Vredenburg, Isensee and Righi (2002, 2) agree: “*design refers to the creation of the total customer experience*”. Through the explorative research conducted for this paper we came across this delicate saying: “*Ask not a designer how to design a bridge, ask a designer how to get across the river*”. This illustrates a designer’s focus on solving user-problems.

Innovations are often market-centric in nature, where standardized market research is central for mapping opportunities (Ulwick, 2002). Such market focus, often done by a company’s own employees, may make it difficult to see beyond what a company believes to be established truths, and thus limit a company’s ability to truly innovate (Veryzer, 1998). Some companies have therefore succeeded by making propositions to customer rather than using traditional market research to determine their needs, companies such as Apple or Alessi (Verganti 2008). Verganti (2008) has branded this approach design-driven innovation. The success these companies have accomplished through this process is astonishing and it contributed to making Apple the currently most valuable company in the world (Forbes, 2012). This methodology may be out of reach for the average manager. A more methodic approach that is more accepted, researched and realistic, is the study of users to identify needs. Wetter-Edman (2011) suggests that design thinking is a balance between Verganti’s Design-Driven Innovation methodology and a more User-centered methodology (e.g. Chayutahakij, Poggenpohl, 2002). Design thinkers study users and then use their unique perspectives to translate the data into valuable solutions that the users could not necessarily have suggested themselves. In other words, design thinking takes the best from market research and user research, and use designer competence to translate the information into solutions valuable for customers and businesses alike.

Design-focused innovations are designed by humans, for humans. This focus on users inspires great ideas and ensures that solutions meet real needs, whether the users are fully aware of them or not. Often the consumer reaction to good design is “*this is genius!*”. Another important component of design thinking is its ability to create emotional connectedness, meaning that the solution is appealing to the user on an emotional level, creating an “*I want one of those*” feeling. Design relies on user-research, rather than market research. Because traditional market research builds

upon opinions of current experiences and current technologies, it is generally unhelpful for design, which is more exploratory in nature. Instead, design borrows user-research methods from social sciences such as sociology, anthropology, and psychology. This helps design-thinkers to understand, credibly explain and perhaps predict human behavior for the creative phase of the innovation process (Karat, 1997; Chayutsahakij, Poggenpohl, 2002). Design-thinkers are wired through their mindset, methods and processes to ensure that the people who will ultimately become the idea's users and customers are always central to how it is developed. This is done through different methods including, but not limited to, user-observation, in-depth interviewing, role-playing, trend watching, extensive prototyping, blueprinting, etc. The focus is always on the user. As the user does not always realize what solutions will fulfill their needs, or even what needs they have, these design-methods help reduce an innovation's uncertainty level. The design process is not linear, but involves back and forth movement throughout the innovation process, including many built-in feedback stages (Best, 2006).

Designers are also able to visualize and communicate their solutions through their methods such as prototyping, making it easier for other cross-disciplinary participants to understand and improve the solutions. Designers value the contribution of other disciplines, as one service designer we interviewed humbly expressed: *"It is so much we designers do not know, we absolutely depend on contribution from others!"*. Cross-disciplinary collaboration is an essential part of the design method, enabling non-designers (e.g. engineering, marketing, manufacturing etc.) to contribute in the process. This way, the design takes into account the brand promise and positioning, as well as technological opportunities and limitations. In addition, more participants are involved in the decision making process, giving them a sense of ownership, which simplifies the organization-wide implementation later. When combining these disciplines' competence with designers' own expertise and user focus, the innovation has an increased chance of reaching its commercial goal.

Design is, to a manager, just one of several ways of reaching a goal, e.g. of increased sales. She could instead spend her budget on a marketing consultant, a direct mail campaign, or some other activity. One often cited reason why business managers avoid design methodologies is the uncertainty of this "fuzzy" process. Brigitte Borja de Mozota (2006) seeks to bridge this gap between designers and business managers, by applying the familiar Balanced Score Card model to design thinking. Managers

also doubt design's commercial benefits, or in other words the return on investment (ROI). The general belief is that the ROI of design thinking is too difficult to measure. Hertenstein, Platt, and Veryzer (2005) found in their research strong evidence that good design is related to financial performance and stock market performance even after considering costs of design processes. The key however, is to establish the goal of the project (return) and then project the costs (investment) (Beverland, Farrelly, 2011). An in-depth study by the UK design council on eleven globally leading brands' design-activity (Alessi, BSKyB, BT, LEGO, Microsoft, Sony, Starbucks, Virgin Atlantic Airlines, Whirlpool, Xerox, and Yahoo!) show that good design creates more competitive solutions, decreases production cost while allowing higher prices. It increases customer retention and acquisition rates, and generates word-of-mouth effects. Lastly, design builds stronger brand identities, which encourages consumer trust and increases adoption of new offers. The most commonly reported rate of return from companies calculating a percentage return on design investment was 15% (Design Council, 2007).

Although innovations require and sometimes develop new technologies, innovations are often a combination of what the customer wants and what the technology allows. There is an ever-accelerating rate of new technological development, and originating technological development in user-information is helpful for it to be accepted by consumers. New product development today is often driven by new technological solutions discovered in a lab, searching for a usage. Design thinking takes the complete opposite approach. It asks "what incredible benefits can we give to the customer – not: what technologies do we have, and then how we are going to market that?". Vredenburg, Isensee and Righi (2002) compare user-centered (design-centered) innovations with a more traditional product-centered (technology-centered) approach, and conclude that user-centered innovations are more: user-driven, solution focused, competitive, dependent on multidisciplinary team work, and focused on both current and future customers, among other things. This illustrates benefits for company's involved with user-centered innovations.

Based on the discussion above, the authors adopt the following definition of design: "*Design is the conscious decision-making process by which user-information is transformed into an outcome, be it tangible or intangible*" (von Stamm, 2008, 8). The term **conscious decision-making** means design-competence is used as a strategic managerial tool, **process** means that design-thinking is included throughout the

innovation process, **user-information** means that design is based on thorough user research, and the **outcome** is the designed solution divided into different degrees of tangibility, i.e. a product or a service.

### 2.1.1. Service design

Services are an increased part of Western societies' GDP, and in Norway three out of four people are employed within service sectors and two thirds of value creation occur in service-sectors (ECON, 2005). In addition, services accounted for 25 per cent of exports in 2005, about the same as industry manufactured goods. Services will play an increasingly important role in developing economic growth and social benefits in Western knowledge-based economies in the future, as production of physical goods continue to be outsourced to low-cost countries. This is why developing innovative and competitive services, is of high importance. Using service design as a strategic tool has the potential to secure Norwegian and other Western businesses' position on the global market in the future.

A discussion concerning design is appropriate for solutions with varying degrees of tangibility. However, this paper focuses on the more intangible part of the specter, the services. There is already extensive literature on service marketing. One of the most influential service articles in recent times is Vargo and Lusch (2004A, 1), who argue for a "*revised dominant logic focused on intangible resources, the co-creation of value and relationships*". They see the market as relational and driven by value created in use of solutions, where tangible goods are appliances in the value-creation process. They argue that firms can only make value propositions, and that the users are the ones who determine value. Wetter-Edman (2011) compares design thinking to Vargo and Lusch's (2004A) dominant logic, and concludes that the two views are complementary, as they share an emphasis on actors, networks and relationships, as well as customer's critical role in creation and perception of value. The research unifies the two emerging concepts together: design thinking and dominant logic.

Businesses are constantly looking for ways to differentiate and add value to their offerings, and this has blurred the lines between goods and services, where company's now offer *product-enhanced services*, or *service-enhanced products* (Heapy, 2011). The classic separation between products and services by Zeithaml, Parasuraman and Berry (1985) of "Intangibility, Heterogeneity, Inseparability, and Perishability" was later criticized by Vargo and Lusch (2004B) e.g. arguing that

many services contain tangible elements, and emphasize the central role of customer in services co-production. This paper takes the same approach; services and service design concern the total customer experience (i.e. customer journey) where designers create holistic solutions. Again, the total customer experience also includes more intangible concepts beyond tangible ones, e.g. a holistic design of a service scape creates a soothing and comfortable ambience. Birgit Mager, a German service design pioneer, defines service design *as using design-methodology to create user-oriented (in)tangible solutions that are useful, usable and desirable* (Saco and Goncalves, 2008, 12). She emphasizes the role of the employees in her research, as a distinct difference between services and more traditional manufactured goods. Employees can be at the front-line of a service, operating in the “moment of truth”, or they are behind-the-scenes ensuring service-delivery. There is extensive service marketing literature concerning the role of employees, but we highlight the renowned *Service profit chain* (Heskett et al., 1994), which explains (*simplified*) that employee satisfaction and retention lead to customer satisfaction and loyalty, which in turn creates profitability. This is very relevant within service design, as designers incorporate employee concerns and roles into their designs, recognizing the crucial role frontline and behind-the-scene employees have for value delivery.

Interaction between employees and customers, and all other tangible aspects of a customer journey, are *touchpoints* between the service provider and their customers. Other examples of touchpoints include brochures, webpages, advertisement, location, other parts of the service scape, etc. Each touchpoint affects the overall customer experience, and must therefore be carefully designed for an overall objective. These touchpoints are often identified in *service blueprints* (Shostack, 1984), a common tool in service innovation and service design (Gloppen, 2009A). Julier and Moor (2009, 2-3) express it elegantly: “*a service design approach sees all of the touchpoints with the customer as something to be thought of holistically, and it would seek to offer an intentionally-designed experience of the organization*”. As previously mentioned, prototyping is one of designers’ main tools, and creating prototypes of entire customer journeys are common in service design to effectively test ideas and identify areas of improvement. Customers today are looking for a totality in services, and managers could look to service designers to offer greater efficiency, profits and ease of customer use (McDermott, 2007). One of the service designers we interviewed as

part of the exploratory study for this research simply stated: “*On top of any (service) design brief is efficiency*”.

As Vargo and Lusch (2004A) argue, the value of a service is obtained from its use, i.e. a consumer must interact with something, whether it is a tangible or intangible touchpoint, to obtain and evaluate the sought benefit. This is true for the total customer journey, across all touchpoints. Live|work, a successful London based service-design agency with offices in Oslo, describe Service Design as the “*design for experiences that reach people through many different touchpoints, and that happens over time*” (Sangiorgi, 2009). As seen in the introduction of this paper, consumers are increasingly time-constrained. We therefore suggest that customers of services value *time saving* as a differentiating attribute in services. As customers must interact with several touchpoints to access value, designers can reduce the time and effort required across and within touchpoints. Service designers can through their holistic design approach help today’s customers obtain this time saving value.

## **2.2. Time Concerns**

### **2.2.1. Consumer Trends**

As previously discussed, a user-centered approach has the potential to shape the future success of a business. It is essential for managers to understand that consumers’ present and future needs depend on their perception of how the world around them is evolving. Technological, economic, environmental, social, or political trends shape what consumers expect from products and services (Trendwatching.com). Stressing the importance of these influences should motivate businesses to bring more insight from user-focused research into their innovation process.

Herein, we adopt the definition of consumer trends introduced by a handful of professionals in the business field, from Trendwatching.com. They see consumer trends as novel manifestations of events, such as changes in societal norms and values, technology breakthroughs, and rise in prosperity, which unlocked an existing and hardly ever changing consumer need, desire, want or value.

Moreover, Ofek and Wathieu (2010) claim that, when researching consumer trends, it is essential to identify relevant tendencies that have the potential to shift customer demands. In doing so, there are a few dimensions to consider: how complex these changes are, how many areas of a consumer’s life are they present in, how do they

influence people's priorities, perceptions of their role in society, and expectations, how many market segments and consumers do they involve and how long will they dominate the market for.

Depending on the answers to these questions, marketers and business executives can decide if a consumer trend is worth being concerned with during the innovation process and new product development. Also, trends' relevance can indicate the right timing for bringing an innovation to the market.

One trend that was found relevant in the view of the previously mentioned dimensions is related to time scarcity concerns. As described by researchers, "time is a scarce and limited resource" (Jacoby, Szybillo, and Berning 1976), which cannot be acquired or stored (Feldman and Hornik 1981).

### **2.2.2. Convenience**

Consumers' interest in conserving time is not new, since it has constituted the motivation for developing convenience goods and services, for promoting time-oriented benefits and for consumers' purchase behavior in many situations (Jacoby, Szybillo, and Berning 1976). Consumers' convenience orientation started off seen as the time and energy consumers used in a product purchase, and then became an attribute of the product (Yale and Venkatesh 1986, Brown 1990). Goods-related convenience, featuring aspects such product size, packaging and so on, was soon expanded to service convenience considering goods distribution, stores operating hours etc (Anderson and Shugan 1991).

Berry et al (2002), one of the articles standing at the basis of this paper, defines service convenience as consumer perceptions of time and effort related to a service. Traditional marketing exchange theory associates convenience with a lower non-monetary price of the exchange to customers (Kelley 1958), resulting in a higher financial price, and thus an opportunity for the supplier to charge a premium price.

Although equally important in convenience perceptions, time and effort are two distinct non-monetary costs (Farquhar and Rowley, 2009). As it will later be clarified, consumers perceive and value time differently. Effort or energy expenditure can be physical, cognitive or emotional, and is, nonetheless, related to time (Farquhar and Rowley, 2009). Brown (1990) introduces five convenience dimensions in his research, and suggests that the execution dimension, i.e. having



someone else provide the service and thus reducing the effort expenditure, has the most apparent time saving benefit.

Modern marketing theory such as the service-dominant logic in Vargo and Lusch (2004A, 2008) or the Nordic school of services in Grönroos (2006), as suggested by Farquhar and Rowley (2009), indicates that convenience has a significant role in 'capitalizing on consumer resources through self-service, co-production and experiential consumption'.

As reasoned by Garretson and Mauser (1963), prosperity would influence a greater evaluation of time and the multitude of products and services available on the market would emphasize the value of time and its scarcity. Therefore, consumers were expected to become more interested in buying time than products and services, since a great variety of products and services are available, while time is scarce and finite. For example, some time ago social status was created by doing things yourself, like housewives doing all the housework: cooking, cleaning, washing; husbands fixing everything in the household: plumbing, car engines, changing tires. Nowadays, social status is given by having the means to purchase services that replace all this work, saving your time and enabling you to spend it on something else.

### **2.2.3. Return on Time**

With more freedom and availability than ever before, consumers want to know, see and try a bit of everything. The rush to keep up with all the information flow has determined changes in consumers preferences and behavior and have turned their wellbeing into frenetic lifestyles, where their time allocation, as an outcome of demographic, socioeconomic, and psychographic determinants, has become essential (Holbrook and Lehmann 1981).

The term "lifestyle" describes consumers' decisions regarding goods and services purchase and consumption. Here, the time issue comes in again, since these decisions are highly dependent on the way consumers allocate their time among their consumption habits, based on their opinions, interests and demographics. In order to understand consumption decisions, it is critical for marketers to understand consumers' perception of use of time, since consumers evaluate both how much time they spent to purchase and to consume products and services (Feldman and Hornik 1981).

To follow, Anderson and Shugan (1991) claim that consumers can either spend time, as a cost, or invest time in consumption. More often, consumers regard it as a cost, since they have to spend time while going shopping, searching for information about and choosing among the various products or services, waiting in a queue and going back home.

On the other hand, consumers make their purchase choices for different reasons. For example, they go to a restaurant and buy their services and products. They buy food to fulfill their hunger needs; they buy drinks for their thirst, but also socialize for entertainment and so on. Thus, the time spent was clearly an investment since they have fulfilled their needs. Similar to financial investors who wait for a return on their investment, consumers' self-fulfilling experiences can be viewed as their Return on Time invested in the specific activities.

So in the context of a hectic environment, where there are so many opportunities and not enough time to take advantage of them, businesses must find a way to respond to consumers' worries about time scarcity, turning time more often into an investment for increased Return on Time.

Return on Time, as a consumer trend, comprises consumers' urgency to find optimal benefits from their time allocation. Procuring as much free time as possible between and during activities and spending it on self-fulfilling experiences can enhance Return on Time. That is, discovering the ideal balance between the quality and quantity of experiences. While quality of an experience refers to benefits in terms of self-fulfillment, efficiency and pleasure, quantity is about finding the best number of self-fulfilling experiences per unit of time (Andreassen, Calabretta and Olsen 2012A).

In order to better understand what RoT is, we will use the definition provided in the working paper of Andreassen, Calabretta and Olsen (2012B, 2-3), where RoT is "an individual's goal oriented behavior targeted at acquiring and spending time over a set of chosen activities with the purpose of increasing subjective well-being".

As Garretson and Mauser discovered back in 1963, the value of time is continuously increasing for consumers, mainly when financial resources and the limit in products and services range are no longer a main concern. Subsequently, Schary (1971) concluded that, if time is such an important matter in consumption, then marketers should develop products including the perspective of time value that consumers associate with the product use. Therefore, offering products and services that can

either save or better allocate time, that is, increasing RoT for busy consumers, represents a value-added proposition.

Taking into consideration the optimization of RoT during the innovation process can present benefits of the new solutions that customers are willing to pay for. Such willingness-to-pay is a prerequisite for the probability of adoption of the innovation. Since consumers are aware of time value, it is likely they will adopt an innovation that is designed to give consumers an optimized RoT.

Based on Andreassen, Calabretta and Olsen (2012B), the optimization of RoT can be looked at through two dimensions, namely time acquisition and time spending. Acquiring time is characterized by the purchase of goods and services whose consumption presents a utilitarian drive, consumers being oriented towards practical, functional and goal-oriented benefits. Likewise, time spending can be described to occur due to hedonistic consumption expectations for fun, fantasy and sensual pleasure (Strahilevitz and Myers, 1998). The dimensions embodying RoT, time acquisition and time spending, will be further described.

**Time acquisition** can be divided between time buying and time saving. *Time buying* refers to products or services that replace human effort. In accordance with Berry (1979), a consumer concerned with time scarcity and how a product/service can help him gain more free time, is more prone to purchase goods and services that will substitute for the time consumer dedicates to certain activities, such as doing laundry, making coffee and so on. *Time saving* represents the mobilization and reorganization of one's own resources, aiming to free up as much time as possible. For example, one can ask for babysitting help from grandparents. As Feldman and Hornik (1981) see it, time saving is about achieving greater efficiency through time reallocation between activities. In addition to efficiency, Andreassen, Calabretta and Olsen (2012B) propose that consumers can also save time through prioritizing (doing important activities first; e.g. Google calendar allows you to plan your activities) and multitasking (performing two tasks at the same time, learning a foreign language from audio book while driving).

**Time spending** means a better utilization of the time saved, with the purpose of achieving higher well being. As Jacoby (1974) mentioned, consumers want to reduce time spent for routine activities in order to have more free time for self-fulfilling, pleasurable experiences. People make subjective evaluations of the activities

improving their well-being, since they have different needs. Andreassen, Calabretta and Olsen (2012B) suggest four types of trade-offs that influence consumers' well-being through time spending: content trade-off (leisure vs. work activities), sociological trade-off (social vs. solitary activities), psychological trade-off (high cognitive vs. low cognitive activities), novelty trade-off (innovative vs. routine activities).

Our research will focus on the first dimension of RoT, time acquisition, and how this can be used to optimize RoT. In our qualitative research, we found that consumers generally use solutions that help them mobilize and reorganize their activities, which shows that time saving and time buying are closely interconnected. Therefore, we are not going to distinguish between time buying and time saving in our analysis. We will use the term 'time saving' as representing both of these aspects of time acquisition, for simplicity and easier understanding.

#### **2.2.4. Subjective vs. Objective Time Perceptions**

Examining consumer use of time has been discussed in the literature as crucial for understanding consumer behavior. As such, the distinction between the subjective and the objective use of time is important.

Durrande-Moreau and Usunier (1999) clarified this difference by explaining that objective time is based on reality as measured by a clock, while subjective time is based on perceptions and can be flexible and changeable according to the activities undertaken.

While the objective time is generally used for observing consumer use of time, marketers should strive to understand how consumers perceive the use of time, i.e. the subjective time. Independent of how long an activity takes, consumers will judge it through their own perceptions. As argued in Hornik's paper (1984), subjective time and its value can be influenced by the satisfaction that comes with: the consumption of a product/service, the subjective meaning of the consumption, non-temporal characteristics of the consumption, consumers' personal characteristics, or spatial features surrounding the consumption.

As argued by Carstensen (2006, 1), "Time is an integral part of virtually all psychological phenomena" and people's general behavior is based on how much time they believe they still have left in a specific context.

### 2.2.5. Efficiency

Traditional search theory looks at a buyer's search cost as the one for finding an appropriate supplier and purchasing a product (Bakos 1997), while consumer behavior theory recognizes this as customers' contribution to the production and delivery of a service (Lilien, Kotler, and Moorthy 1992, cited in Xue and Harker, 2002). Therefore, when aiming to obtain an efficient service delivery, customer input is critical. Xue and Harker (2002) distinguish between transaction, value, and quality efficiency, while defining customer efficiency as dependent on the number of inputs consumed in order to obtain as many outputs as possible.

For instance, from an economic view, the output might be service quality, where the input is the cost the consumer pay to receive the output, both monetary and non-monetary. As service quality and monetary cost are familiar concepts, we suggest that service efficiency can be increased by reducing a non-monetary input required to initiate transaction, e.g. reduce time required to initiate service-delivery.

Therefore, as illustrated by Xue and Harker (2002), customers have to engage in coproduction of the service for any level of efficiency to be obtained. An efficient coproduction of the service with the customer leads to a higher quality and efficiency of the service delivery, satisfying the customers, increasing the service value, improving customer attitudes and impressions about the brand, and augmenting their interest for repeat purchase (Xue and Harker 2002).

One of the consumers interviewed for our qualitative research stated that she felt society expected her to be time-efficient (e.g. when there's a queue in grocery shopping), and that this sometimes caused her stress. Services that are time-efficient can therefore avoid this potential problem.

## 3. Conceptual Model

Figure 1 is the conceptual framework of our study. It is based on literature review covering appropriate fields, such as design, time and service innovation, as well as in-depth interviews of designers and consumers. The model follows a simple, structural logic that forms the basis for the hypothesis testing explained later. We suggest three main sets of relationships: **time design**, **time concerns**, and **commercial consequences**. The logic behind the model is that managers who wish to innovate time saving services need to include the three design

characteristics in the service-design, conceptualized as Time Design. These characteristics, if successfully implemented within the service, will create time saving benefits for consumers, which in turn will increase consumers' *Return on Time*. The RoT benefits are believed to be something consumers value, which therefore leads to adoption and loyalty of the service. In addition, it is suggested that the RoT benefits are a value-added the consumers are willing to pay a price premium for. Based on this logic, we present the conceptual framework for this research:

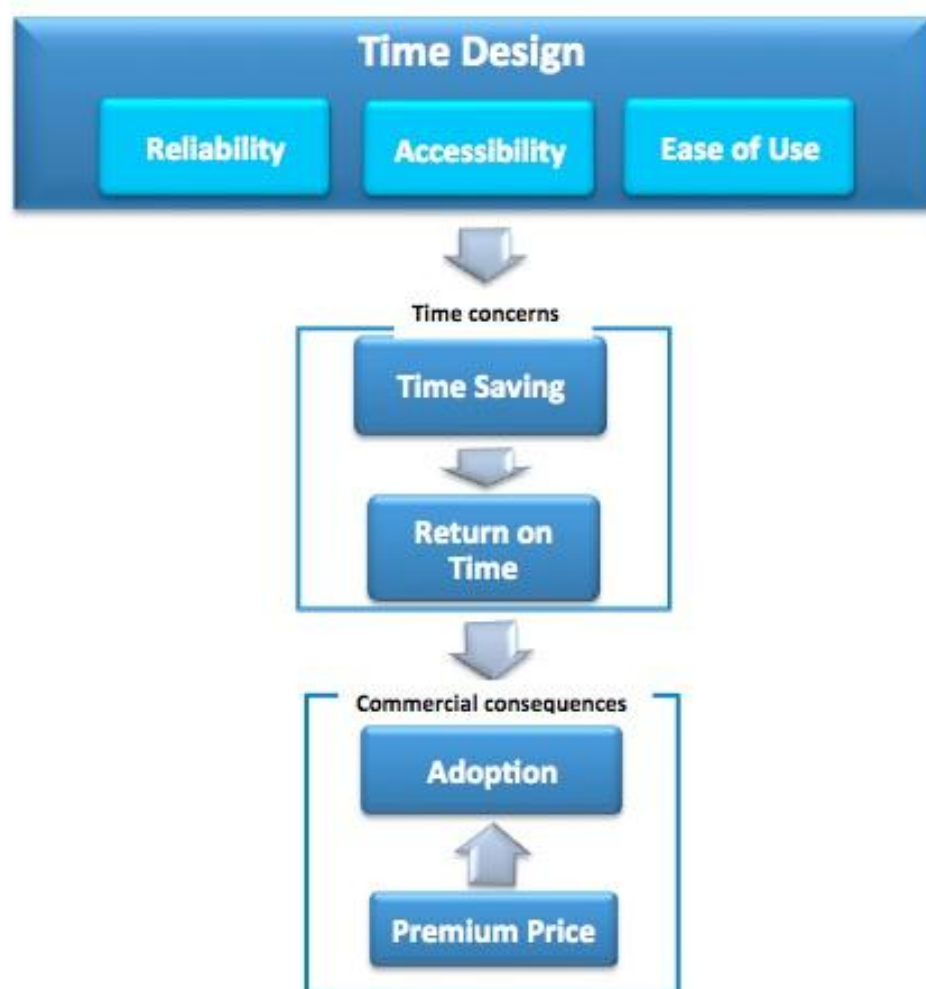


Figure 1. Conceptual Framework

## **4. Hypothesis Development**

### **4.1. Time Design**

Aiming to link design with time saving, our research points to using design methodology in innovations as a way of improving time saving for consumers. As such, we created a new variable describing this design methodology, named Time Design. We define Time Design as the result of design characteristics building on each other. Design characteristics have been determined by findings from the qualitative research conducted for this study. By interviewing designers and consumers, we found that design can add to time saving through three main design characteristics: Ease of Use, Accessibility and Reliability, which we are going to discuss further on.

#### **4.1.1. Ease of Use**

As discussed by Davis (1989), perceived ease of use is an important determinant of consumer decisions and thus consumer behavior related to information technology. If potential users consider the effort of using a service to be higher than the outcome or perceive it difficult to use, the probability of rejecting that service is higher.

Davis (1989) defines perceived ease of use as ‘the degree to which a person believes that using a particular system would be free of effort’. An easier to use system is more likely to be accepted by users. Following our model, we consider that a service designed to be easy to use can help consumers save time and therefore will be accepted by more potential users.

Davis (1989) also explains how important ease of use is in consumers’ decision-making processes through the cost-benefit paradigm. He argues consumers alter their choices depending on how complex the task they have to perform is. Hence, the effort they make to use the service is another cost they have to pay for benefiting from the service. A good example is analyzing the effectiveness of information display formats. When considering a public transportation service, the information about directions, departure hours, and ticket system (self-service technology) makes the service easy to use.

Making the difference between subjective and objective measures of effort, Davis (1989) has looked at how consumers perceive the level of ease of use. He based his choice of subjective measures on Beach and Mitchell (1978), who show that a consumer makes a decision grounded on his own subjective opinion of how much effort he makes.

Dabholkar (1996) has also considered ease of use to be an important attribute to customers using information technology. While encompassing complexity and effort, ease of use is a concern for customers in terms of saving effort and reducing social risk. As previously discussed, time is an integral part of effort. Thus, designing a service aiming to reducing the effort of using it, by making it easy to use, helps Time Design to contribute to increasing perceived Time Saving.

#### **4.1.2. Accessibility**

By accessibility in this context, we refer to consumers' perceived time and effort expenditures to initiate service delivery, in accordance with Berry et al. (2002) and Seiders et al. (2007). Accessibility can include location, opening hours or parking availability if the service delivery requires physical customer presence, and can also include situational factors such as current capacity, flexibility and the possibility to make appointments and reservations (Parasuraman, Zeithaml, Berry, 1985, Bitner, Brown and Meuter, 2000). Accessibility becomes especially important for "inseparable" services, where customer presence and participation is required for service-delivery (such as a taxi service versus a car repair service) (Berry et al., 2002). In other words, customers must synchronize their availability with the availability of the service, e.g. employee availability (Berry et al, 2002). We also include information accessibility in the discussion, e.g. updated and visible timetables, or text-message notifications in case of delay. Information accessibility allows consumers to plan consumption and it influences their expectations of service delivery. The importance of information accessibility was supported through our qualitative research. One important reason for the increase in use of Self-service technologies is that many of these technologies reduce the time and effort customers spent for inseparable services (Meuter et al, 2000). Services with available self-service technologies reduce the dependency customers have on the service-providers availability, and therefore make the service-delivery



more accessible. Customers' time concerns vary according to the type of service; routine services such as grocery shopping depend heavily on accessibility, whereas customers are more willing to travel to experience a spectacular tourist attraction.

Building on the accessibility research above, we include a more holistic service design approach to accessibility. We suggest service designers' user-focus helps them understand the entire customer-journey, and design a journey where all touchpoints are perceived as more accessible and efficient, contributing to the positive effect Time Design has on perceived Time Saving.

#### **4.1.3. Reliability**

Reliability in the context of this paper is the ability to perform the promised or expected service dependently and accurately (Parasuraman et al. 1985). It means that the service firm delivers the service without errors at the designated time. In research done on service quality perceptions, Parasuraman et al. (1988) found that Reliability was consistently the most important dimension for perceived service quality. Dabholkar (1996) researched Reliability in a self-service technology context, and found that Reliability had no effect on perceived service quality of self-service machines. Our research explores Reliability in a broader context than self-service, and in a more narrow sense than service quality (time concerns). We believe that Reliability may be an important part of perceived Time Saving service design, and therefore explore it in this new context.

In our qualitative research, we found that safety concerns were important for service-reliability, which makes sense, as any incident that threatens customers' safety is something customers do not expect. Blatantly put, such a situation would also cause delays in service-delivery. Such service-failure is the opposite of reliability, and often causes customer dissatisfaction (Wilson et al. 2008). One reason may be that the failure itself is time-consuming, or that a complaint and service-recovery process is perceived to be time consuming.

Parasuraman et al. (1985) stresses that although customers may have a perception of a service's reliability before consumption from their own or others experience, they are likely to reevaluate after each time a purchase is made because of the heterogeneity of services. Reliability therefore, by its very definition, has to be

consistent, and services should be designed so that the service-delivery always at least matches expectations. When there is no discrepancy between expectations and perceptions, consumers will perceive Reliability. Customers evaluate time concerns subjectively, and a minor discrepancy from what is expected (e.g. a five minute delay) can be enough to cause dissatisfaction. Generally, consumers are easily frustrated if they believe their time is being wasted because of things outside of their control. Service designers are aware of this, and may be able to design solutions and touchpoints so that these discrepancies do not seem serious.

A particularly interesting finding from our qualitative research was the emphasis put on trust by the interview-subjects. They felt that trust in the result of service-delivery was essential for Time Saving, meaning they could relax and not worry about the service-delivery (e.g. trust a mechanic to fix her car). Designers may create a professional impression of the service to build this trust, (e.g. through a holistic graphic profile), as consumers will believe they are dealing with a reliable service-provider, that they themselves are taken serious, and that their time will not be wasted.

If a service is designed to be perceived as reliable, consumers will have little reason to believe they will waste time in the service-delivery, and may evaluate the service favorable versus competitors. Hence, Time Design is enhanced in a service designed to be Reliable, which has the potential to increase perceived Time Saving benefits.

Therefore, the three design characteristics uncovered in our qualitative research complement and work on each other to build the Time Design construct, which essentially covers the idea of designing with the purpose of giving time benefits. There is consequently logical that Time Design will increase perceived Time Saving.

*H1: Time Design will have a positive effect on perceived Time Saving.*

## **4.2. Time saving**

Although time has a different perceived value for each and every one of us, it is a fact that consumers are concerned with time scarcity issues. If managers succeed to address these issues by incorporating design in their innovations

(i.e. using Time Design), the new solutions have a high potential of optimizing RoT benefits for the users.

Time Saving is a conceptual part of RoT, so intuitively, providing customers with time saving benefits will help them free up time for self-fulfilling time spending, i.e. optimizing RoT.

*H4: Perceived Time Saving has a positive effect on Return on Time.*

### 4.3. Adoption

The goal of any marketing activity will always be producing positive commercial consequences, whether it is using a new innovation process such as design-methodology or providing valuable customer benefits through improved RoT. The service innovation strategy we suggest in this paper needs to be financially viable and accountable, and perhaps the most critical commercial consequence of a new or improved service is *adoption*. Adoption in this context is consumption and use beyond the initial trial, i.e. intention of repeat purchase. This may also be referred to as customer loyalty or customer retention, which is the long-term commercial goal of any innovation. Marketing research based on long-term customer equity and customer lifetime value illustrates adoption and retention significant effectiveness on financial performance (e.g. Rust, Lemon and Zeithaml 2004).

The logic behind our conceptual model is that using design methodology to create services that positively affect consumers' RoT will have an increased likelihood of adoption. The combination of the user-focus of design, and current need-fulfillment of RoT, are the critical elements of the discussion. Design's role in new product development is to translate user information into solutions that are valuable to consumers, which increases likelihood of consumer acceptance of the solution.

Applying the logic behind the widely cited Technology Acceptance Model to our context, the authors conclude that perceived usefulness (i.e. value) of an innovation is a major determinant of people's intention to use and adopt (Davies, Bagozzi and Warshaw 1989). Xue and Harker (2002) found a positive relationship between average customer efficiency and repeat purchase ratios. A report published by the UK Design Council found that good design increases

customer retention and acquisition rates of new solutions (Design Council, 2007). In their influential research on the impact of design-methodology on new product development, Veryzer and de Mozota (2005) conclude that: “inclusion of user-oriented design leads to products that are more readily adopted by users due to better product appropriateness” and “adoption likelihood may be enchanted through design that addresses crucial attributes”. We believe RoT added-value is exactly this type of crucial attribute based on previous discussion. Rot benefit is an effective competitive advantage, as consumers will usually choose the most convenient solution; all other things equal (Yale, Venkatesh, 1986). Other empirical research concludes that convenience is significantly related to customer satisfaction and behavioural intentions (Andaleeb and Basu 1994), consumer switching behaviour (Keaveney 1995) and customer retention (Rust, Lemon and Zeithaml 2004). As time concerns are a conceptual part of convenience, the link between RoT and adoption seems intuitive.

*H5: Return on Time has a positive effect on Adoption.*

#### **4.4. Premium Price**

A premium price is considered to be quite high above average, and it envisages long-term profits, translated into customer equity, brand equity, and of course financial gains (Rao and Bergen 1992).

Porter (1985) explains that premium prices can be justified through value creation, which can entail reducing consumer costs. These methods can give the supplier the opportunity of charging this premium price, given that the supplier can reduce total consumer costs.

As earlier discussed, traditional marketing exchange theory associates convenience, and thus perceptions of time and effort related to a service, with a lower non-monetary price of the exchange to customers (Kelley 1958), resulting in a higher financial price.

Bringing consumer behavior into discussion, Nichols, Smolensky, and Tideman (1971) wrote about the time-money tradeoff, exemplifying with queuing. Although they did not specifically refer to time as a non-monetary cost, they argued that waiting in line for purchasing a product or service raises

the cost of that product/service. They also mentioned the price can be different in consumers perception, depending on how they value their time.

Reduction in non-monetary costs creates value for customers. This value creation can increase company's costs, which in turn commands a premium price. However, as stated by Shapiro (1983), premiums that reputable companies can command inspire these companies with a reputation standard, which they cannot fall short of.

These standards and value creation is facilitated by design, as proven by an in-depth study by the UK design council on eleven globally leading brands' design-activity (Design Council, 2007), which show that good design creates more competitive solutions and decreases production costs while allowing higher prices. It also contributes to improved customer retention and acquisition rates, while encouraging consumer trust through stronger brand identities. Consequently, companies get to enjoy higher adoption rates of their new offers.

Therefore, when incorporating design in solutions innovated with the purpose of offering Return on Time benefits and value added, companies can afford charging a price premium. Even more, with higher prices reflecting higher quality, a premium price should increase consumers' trust in the service.

Although we have established businesses can charge a premium price for added value in solutions, we want to explore premium price effects on adoption in relation to RoT and design. We believe businesses can only add a price premium to a certain level. Above this level, the price is perceived to be unfair considering the value the consumer receives. A premium price position can only be as strong as its value. Therefore, we believe that price premium perceptions will have a negative effect on adoption in the model.

*H6: Premium Price has a negative effect on Adoption.*

#### **4.5. Segments**

In order to maximize the benefit of ROT in innovations, it has to be considered that not all consumers perceive ROT the same. People allocate their time differently, depending on their different needs, wants, everyday activities and preoccupations. For example, it is clear that teenagers and retired individuals have

different perspectives about life and are interested in different products and services, thus adopting different innovations. This is why it is more efficient to look at how ROT manifests itself for different segments of consumers.

Andreassen, Calabretta and Olsen (2012A) have proposed a segmentation relying on family lifecycle, such as having children living at home or not, aiming to better understand consumers' needs at different points in their lives and thus bringing a better insight into the innovation process. Hence, businesses will be better off with information about these differences, since they will have knowledge about how to position and whom to offer their innovations. Thus, they can use this information to adapt/ tailor service-offerings to each segment. i.e. different time-related strategy for each segment. The authors discuss about three different segments: "Young, free and simple", "Chaos in my life" and "Got my life back".

"Young, free and simple" consumers focus on time spending, attempting to maximize the quantity of experiences they live, per unit of time. They want to include as many activities as possible in their lives, to experience everything there is, to take advantage of all the new opportunities on the market. They look for 'goal oriented activities targeted at spending time socially'.

The "Chaos in my life" segment includes individuals at a stage in life when they are overwhelmed with responsibilities such as career, investments (e.g. buying a house, a car), family, children, and friends. They sacrifice most of the time to fulfill their duties, time that used to be reserved for themselves. They focus on time saving, looking for multitasking and efficiency in the products and services they use. They are very selective in choosing how they spend their limited time, aspiring for fulfilling their duties and devoting the rest of the time to relaxing, self-fulfilling activities. They are engaged in 'goal oriented activities targeted at freeing up time'.

Consumers belonging to the "Got my life back" segment are people who managed to calm the chaos in their lives, after they reached the top of their careers and their children moved out. They want to enjoy the free time they now have, doing everything they couldn't do for a long time. Their activities are targeted at spending time meaningfully.

These three segments may present different levels of willingness of adoption of new products/services, but the adoption process highly depends on how the innovations serve their needs and wants in life. Consequently, ROT benefits brought by innovations will have a certain influence on consumers' decision to adopt the new offerings, depending on which stage they are in the family lifecycle.

*H7: Return on Time perceptions are different between the three segments.*

In addition, consumers' different lifestyles are supported by different financial resources, which influence price perceptions. As the consumer segments should have different perceptions of time and RoT, they should have different perceptions of a potential premium price for time related benefits. This led us to our last hypothesis proposition.

*H8: Price Premium perceptions are different between the three segments.*

## **5. Methodology**

### **5.1. Qualitative Methodology**

Service design and RoT are both intangible and abstract terms, and we initially believed our own understandings of the terms could cloud what they actually meant. Therefore, we decided to conduct in-depth interviews to better understand this unexplored field, and to aid us understanding the field and developing appropriate hypotheses (Malhotra, 2010). The purpose was also to triangulate findings with the literature review for operationalization of our measures.

#### **5.1.1. Consumers**

We conducted semi-structured interviews with five consumers of time-saving solutions, lasting approximately one hour. The consumers were based on our segments, "Young Free and Simple" (N=2), "Chaos in My Life" (N=2) and Got My Life Back (N=1), where they were first asked about their feelings and thoughts around the concept of time, then asked about their daily lifestyles and consumption of time-saving solutions, and lastly of how and why those solutions helped them save time and why they had adopted them. This gave us a much deeper understanding of consumer rationale concerning time-saving solutions, and the findings are basis for much of the discussion in this paper.

### 5.1.2. Designers

We conducted semi-structured interviews with five designers from different design disciplines, as well as one design manager, lasting approximately one and a half hour each. We chose three cases of services where we believed time saving would be significant, which was supported through our interview findings. These included an e-learning tool and a real-time webpage for public transportation and the airport express train. The designers from these cases were interaction and graphic designers. The design manager interviewed had worked on the launch of the Norwegian Airport Express train in 1998, and is now adviser for service innovation at the Norwegian Design Council. In addition, we interviewed a product designer, and a service designer, without any specific case for a more general perspective. The findings formed a basis for the operationalization of our measures, by triangulating the findings from literature review and consumer interviews, as well as giving us a deeper understanding of design for our discussion. The subjects were recruited with the assistance of the Norwegian Design Council, who also contributed greatly to our understanding of design through more informal discussions.

## 5.2. Quantitative Methodology

### 5.2.1. Quantitative Rationale

The purpose of this paper is to define the causal relationship between design characteristics, time saving, and their commercial consequences, and we chose to test these relationships empirically by distributing a survey. We started the process with an exploratory view, forming a general assumption; then build on this through literature review and in-depth interviews, to form a total understanding as basis for the empirical study. The goal is to generalize our findings across a larger setting than the exploratory technique allows.

### 5.2.2. Context of Study

We chose a case-based design for our questionnaire, to ensure that respondents could answer our otherwise ambiguous questions in a familiar context. The Norwegian Airport Express train, Flytoget AS, was chosen. Flytoget is a high-speed passenger train with frequent departures from Oslo central station to the main airport. We believe that time saving is an important part of Flytoget AS's



value proposition, which can be supported by one of their (Norwegian) advertisements seen in appendix I. When introduced in 1998, Flytoget faced difficulties in rebuilding the trust of Norwegian train passengers. Flytoget management therefore had to think new, and hired in design thinkers to design a service unlike its predecessors, although service design was not yet a profession. Essential to the process was the appreciation of customer-centricity, multidisciplinary cooperation, and holistic design (Gloppen, 2009A). The design philosophy was anchored from top to bottom of the company hierarchy, and can be recognized in every customer touchpoint throughout the service-journey. The customer journey is recognized by a high degree of innovation and customer-centricity through its many touchpoints, e.g. the self-service ticket purchase and validation machines. Personal interaction between customer and employee is accessible, although not necessary for service-delivery. We acquired in-depth knowledge of the service innovation process from our interview with its former design manager, which convinced us Flytoget AS was the perfect case for our study on service innovation. Flytoget AS enjoys great success in annual customer satisfaction and loyalty indexes, and came out on top in Norway's most recognized index for 2012 for both satisfaction and loyalty (Norsk Kundebarometer, 2012). It has also received several high-standing design awards for industrial-, graphic- and textile-design (Norwegian Design Council, 1998). Flytoget is one of the best examples of successful service design in Norway, and design thinking methodology is at the core of the solution.

### **5.2.3. Respondents**

We chose a set of criteria potential respondents had to fulfill to answer the questionnaire. First, they would have to be familiar with Flytoget and have used it before. The questionnaire had a screening question at the start, asking "Have you previously taken Flytoget within the last year" with a yes/no option. Participation was incentivized, as respondents would be eligible for a prize draw when fulfilling the questionnaire. It could be argued that incentives like this can create biased responses from "reward hunters", however we believe our stringent respondent criteria have excluded these types.

Our respondents have to be part of one of the three segments earlier presented. In order to be included in the Young, Free and Simple, respondents have to be in the 19-30 age category and not have children. For the Chaos in My Life segment, respondents need to be in the 20-59-age category and have at least one child living at home. The last segment, Got My Life Back, requires respondents to be over 40 years old, have children who do not live at home anymore.

#### **5.2.4. Measurement Operationalization**

The items in the questionnaire were mostly based on previous research within our context, with minor modifications to ensure relevance to our case. We also developed scales based on reoccurring findings from our qualitative research of designers and consumers where previous research was insufficient. The questionnaire can be found in Appendix II in both English and Norwegian format.

Initially, the purpose of this paper was to research how to design solutions that give time saving benefits. Throughout the research process, three design characteristics were uncovered, which we have developed measures and collected data for.

When the respondents were asked about design characteristics or time saving, they were mostly asked about their attitudes towards Flytoget as a brand. This is because we felt it was necessary in a service design context to focus on the respondents' attitudes of the total service journey, instead of individual touchpoints.

We will now discuss the origin and rationale behind the questions for each characteristic. All questions pertaining to the design characteristics, time saving and premium price were specific statements where respondents answered according to their degree of agreement, measured on a Likert scale of 1 to 7, where 1=Strongly Disagree, 2=Disagree, 3=Somewhat Disagree, 4=Neither Agree nor Disagree, 5=Somewhat Agree, 6=Agree and 7=Strongly Agree. The scale of Loyalty and RoT will be discussed later in this paper.

#### 5.2.4.1. *Ease of Use*

<b>Question</b>	<b>Source</b>
Overall, using Flytoget is complicated for me (r.).	Dabholkar (1996)
I find using Flytoget requires little effort.	Dabholkar (1996)
It was easy for me to learn how to use Flytoget's services.	Davis (1989)
I find Flytoget to be easy to use.	Davis (1989)

#### ***Table 1***

The two first questions pertaining to Ease of Use are adapted from Dabholkar (1996) research on self-service technology. His research forms an appropriate basis for our questions. The first questions pertaining complexity is a reversed general perception of using Flytoget, and therefore captures a general perception of the entire customer journey. The same logic applies to the question on effort, as previously discussed effort and time are often related in the minds of consumers. The last two questions are based on Davies (1989) research on user acceptance of information technology (IT). Our service design context includes much more than just IT, but his questions are still applicable by changing his IT example with our service design example Flytoget. As Davies (1989) argues, if a solution is easy to learn to use, a consumer will perceive it as easy to use as well. The last question is a general question, adapted from Davies (1989), with identical wording as the construct itself.

#### 5.2.4.2. *Accessibility*

<b>Question</b>	<b>Source</b>
The location of Flytoget's stations is convenient.	Parasuraman, Zeithaml, Berry (1988)
Flytoget is easily accessible for me	Parasuraman, Zeithaml, Berry (1988)
Flytoget offers convenient opening hours.	Seiders et al. (2007)
I am able to get to Flytoget quickly and easily.	Seiders et al. (2007)
Information about Flytoget's services is accessible to me when I need it (e.g. Timetable, directions etc.).	Our Qualitative research

The average waiting time for Flytoget is acceptable.	Our Qualitative research
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**Table II**

The questions based on Parasuraman, Zeithaml, Berry (1985) research on determinants of service quality were tailored to our case by replacing “the service” with Flytoget. The question on location is an important part of accessibility of service delivery, as customers of Flytoget need to physically access the service. A broader sense of accessibility is captured by the second question from Parasuraman, Zeithaml, Berry (1985), as we wanted to capture respondents’ attitudes of accessibility of the total customer journey. We adapted items from Seiders et al. (2007) research on service convenience from their “access convenience” construct. Again, the item measuring opening hour attitudes concerns the accessibility of physical service delivery. The item on “quick and easy” access is again a more general question, used to capture attitudes of total customer journey. The two last questions are developed by us, based on qualitative findings. Information accessibility was found to be an important design feature that designers were very aware of and users found important. It was something users expected to be accessible, and was a potential source of frustration because of time and effort costs of finding the information they sought. Waiting time was found to be another source of customer frustration because of time costs. Again, it is the accessibility of initiating the service-delivery that is captured.

#### 5.2.4.3. Reliability

Question	Source
Flytoget is reliable.	Dabholkhar (1996)
Flytoget is punctual.	Our qualitative research
Flytoget gets me to and from Gardemoen without problems.	Our qualitative research
Flytoget transports me to and from Gardemoen safely.	Parasuraman, Zeithaml, Berry (1985), our qualitative research
I believe Flytoget is trustworthy.	Our qualitative research

**Table III**

Reliability concerns the perception of service-delivery considering expectations. The first question presented here concerning Reliability is adopted from Dabholkar's (1996) research on service quality of self-service technologies, where his touchscreen example is replaced by Flytoget. Punctuality was found to be important for service delivery throughout our interviews, and is also appropriate in this public transport context, as deviation from the expected schedule affects a consumer's perception of a service's reliability in relation to service-delivery. The same rationale applies to the "no problems" question. Safety was found to be a critical consideration from the designer's perspective. Although users did not express this concern, we believe safety is a major concern for perceived reliability. This was also found in Parasuraman, Zeithaml and Berry's (1985) research on determinants of service quality. The last question presented here measures the degree the respondent trusts that Flytoget will deliver what she expects, i.e. how reliable it is. Trust was a strongly reoccurring finding in our interviews of designers and consumers.

#### *5.2.4.4. Control*

We created a construct named "control", which revolved around customer empowerment in service-delivery. The construct was measured by three questions, which we included in our questionnaire. However, we later reviewed our rationale for including the construct as a design characteristic, and after thorough consideration we decided we did not have sufficient evidence from literature review or qualitative research for including it in the research. As such, we decided to remove the construct from the paper.

#### *5.2.4.5. Time Saving*

Despite extensive literature on customers' time perception, and importance of efficiency in service-delivery, we could not find any pre-existing scales that match our definition of the construct in this context. We therefore developed a seven-item scale based on our own understanding of the construct, inspired by literature review and qualitative findings.

Question	Source
Buying the service from Flytoget is more efficient than going back and forth from Gardemoen myself.	Our qualitative research and general review of time literature.
Time saving is an important benefit of using Flytoget.	
I believe Flytoget's ticket system is time consuming (r.).	
I save time with Flytoget, compared to other ways of getting to the airport.	
The information (e.g. online time table, application) available to me from Flytoget allows me to plan when to use the service.	
I can do other things while using Flytoget (e.g. reading, answering e-mail).	
Flytoget helps me save time.	

**Table IV**

The first question measures the respondent's perceived time saving of Flytoget versus traveling to the destination by other self-dependent means. The question is meant to capture the respondent's attitudes towards time saving benefits given by Flytoget versus other alternatives. The second question captures respondents' attitudes towards the importance of time saving for Flytoget. It does not compare time saving to other benefits of Flytoget, as that could disrupt and bias the response. The third question on ticket system captures time saving given by an essential touchpoint of the service. The self-service ticket system was found to be the most dominant time saving touchpoint throughout interviews of designers as well as consumers. The next question again compares Flytoget and its perceived time saving to alternative ways of transportation, as time saving is believed to be one of Flytoget's strongest competitive advantages. Andreassen, Calabretta and Olsen (2012B) found planning to be an important activity for consumers' time saving, and we developed the next question with this in mind. In order to plan the use of Flytoget, consumers rely on updated information, which is accessible through several touchpoints. The next question is also based on Andreassen, Calabretta and Olsen (2012B) research, where polychromic behaviour (multitasking) is an

important time saving activity. As this was also dominant throughout the qualitative research, we included it in the construct. Finally, a more general question measures the perceived time saving of the total customer experience of Flytoget.

*5.2.4.6. Return on Time*

Question	Source
Overall, I think I manage my time well.	Andreassen, Calabretta and Olsen (2012B)
Overall, I think I get a lot out of my time.	
Imagine for a second that you are using your time ideally... Compared to this situation, how near or far away are you from this situation?	
Think for a second on how you spend your time – work, family, friends, yourself, etc. Overall, how satisfied are you with the outcome of your time spent?	
If you compare how you spend your time and its outcome to people you naturally can compare yourself with, how would you rate the outcome of your time compared to them?	
Compared to your expectations pertaining to spending time, how would you rate the overall outcome of your time usage on various tasks - work, family, friends, yourself, etc.?	

**Table V**

These six questions were adopted from Andreassen, Calabretta and Olsen (2012B) working paper on Return on Time, with minor modifications due to pre-test feedback (we believe this is due to translation of questions into Norwegian). All questions are measured on seven-point Likert scale, but with different endpoints. The first two questions measure the degree to which respondents agree they manage their time well, and whether they get a lot out of their time. The endpoints are “strongly disagree/ strongly agree”. The next questions measure the respondents evaluated outcome of their time, with endpoints such as “very far away/very close to” ideal time usage, “very dissatisfied/ very satisfied” with outcome of time spent, “much worse/ much

better” outcome of time usage compared to others, and “much lower/ much higher” than expectations of time usage. Unlike the other constructs, RoT is not measured in the context of the Flytoget case, as the construct instead captures personality traits of the respondents.

*5.2.4.7. Adoption*

Question	Source
How likely are you to recommend Flytoget to someone who seeks your advice?	Seiders et al. (2007)
How likely are you to say positive things about Flytoget in the future?	
How likely are you to continue using Flytoget in the future?	
How likely are you to search for alternatives to Flytoget in the future (r.)?	

*Table VI*

The questions on loyalty are adopted from Seiders et al. (2007) research on behavioural intentions as a consequence of service convenience. The only modification to the questions is the inclusion of Flytoget’s brand. The questions are measures on a seven-point Likert scale, with “not very likely/ very likely” endpoints.

*5.2.4.8. Price Premium*

Question	Source
Flytoget is a high priced alternative for getting to and from Gardemoen	Authors’ contribution
I believe Flytoget has low prices compared to other ways of getting to and from Gardemoen (r.).	

*Table VII*

We did not find any pre-defined scale for price premium, but we believed that the construct is so narrowly defined in our context, that we safely could create a new scale for this purpose. As previously explained in the literature review, the purpose is to measure Flytoget’s price level compared to competitors and



substitutes, and that way determine whether Flytoget has a premium price level. Therefore, the questions are defined very straightforwardly.

#### **5.2.5. Questionnaire Design**

The questionnaire was translated to Norwegian, to ensure respondents could understand all words and terms. We included a cover letter that thanked the respondents for their participation, introduced us as students, explained that they were selected as customers of Flytoget, and explained that the purpose of the questionnaire was to explore their attitudes towards Flytoget. Next, we ensured the respondents anonymity since the RoT questions can be personal, and lastly requested them to fill out *all* questions.

Four items were reversed, as is commonly done in attitudinal research (Malhotra, 2010). The order of the items for design characteristics and time saving was randomized, so respondents had to thoroughly read each question. We placed the somewhat personal and sensitive questions regarding Return on Time at the end, followed by identification information, to increase willingness of response (Maholtra, 2010).

#### **5.2.6. Pre-test**

Prior to data collection, the questionnaire was pre-tested several times, in addition to its base in literature review and qualitative findings. A smaller sample was chosen who fit our respondent criteria (N=15, 5% of total sample size). The respondents were asked to fill out the questionnaire and provide feedback on how understandable the questions were, as well as the order, time required, enjoyment, incentive for participation, and any other comments they may have. Several minor adjustments were made, before we pre-tested again (N=6) and this time no systematic error could be found.

#### **5.2.7. Data Collection**

Data was collected in two ways. First, a link to an online version of the questionnaire was spread through social media and e-mail. This method collected 152 responses. Second, we gained access to Flytoget AS's trains through contacting Flytoget AS management, and we were allowed to hand out printed questionnaires in the trains back and forth between the airport and the central station. This method collected 258 responses. In both scenarios, we

introduced ourselves as master students from BI, writing a paper on Flytoget, and informed them of the prize draw. Interestingly, the response rate on-board the train was exceptional, approximately 80 per cent. The reason is probably that respondents were informed the questionnaire would take seven minutes, while the travel-time to the airport is 22 minutes. A large majority of respondents answered the Norwegian version of the questionnaire. The data from the printed and online surveys were merged, and inputted into SPSS.

### **5.2.8. Data Cleaning**

Before data cleaning, we had 410 respondents. First, respondents who answered that they had not taken Flytoget previously within the last year were immediately deleted from the sample (N=47). In addition, respondents with severe missing values (e.g. not filling out a page in the questionnaire) were deleted (N=5). There were very few missing values in general, as many responses were from the online survey (N=152) where respondents were forced to give an answer. In the four cases of missing values in the printed survey, a mean response for that item was computed, as this is the most common, convenient and effective way to deal with relative low levels of missing data (Hair et al., 2010). Lastly, respondents who either did not fit our segments (e.g. younger than 20, or 50+ without children), or did not provide sufficient data to be segmented, were deleted from the sample (N=47). The final sample size was 311 respondents.

### **5.2.9. Sample size**

In general, structural equation models require large sample sizes. The final sample size is 311 respondents, which is sufficient for empirical testing of our hypothesis through structural equation modeling (Hair et al. 2010). This judgment takes into account the general guidelines such as seven or fewer constructs, construct communality below 0.45 (or Average Variance Extracted, as presented later in section 5.3.Reliability) and no under-identified constructs (i.e. fewer than three-item constructs). The fact that all respondents have been thoroughly screened for our study, allows for a smaller sample size, as all respondents are considered qualified and capable of answering our questions (Hair et al. 2010). The sample size discussion for the analysis of variance of H7 and H8 can be found later in the 6.6. Results section.

## 6. Results

The results section of the paper concerns Confirmatory Factor Analysis (CFA), reliability, validity and goodness-of-fit (GOF) of both the CFA and Structural Equation Model (SEM), and an ANOVA discussion. Lastly, the results of hypothesis testing are presented.

### 6.1. Design Characteristics' Validity Issues

Initially, the purpose of our study was to empirically prove that using Service Design could lead to Time Saving benefits. We later uncovered three specific design characteristics that provide Time Saving benefits if successfully designed. These three characteristics were “Ease of use”, “Accessibility” and “Reliability”, presented in 4.1. Hypothesis development. However, we encountered validity problems with these constructs during analysis, specifically discriminant validity. As we uncovered from our qualitative research, these three characteristics provide time saving benefits in services, and they are therefore essential to “design for time-saving purposes”, i.e. “Time Design”. Through the analysis, we found that the three characteristics work better for Time Saving when merged together. Therefore, we first establish a model for the three design characteristics and discuss its validity, which we will later use as basis for our final model, where the three exogenous latent variable design characteristics are merged into one exogenous latent “Time Design” variable. The initial model **including** the three design characteristics as well as standardized path loadings and t-statistics can be found in Appendix 3 and its LISREL syntax in Appendix 4. This model is the basis for the following discussion concerning CFA and measurement validity.

### 6.2. Confirmatory Factor Analysis Goodness-of-fit

Before evaluating measurement validity, we look at model fit through CFA. CFA is preferred over exploratory factor analysis because it is theory based, accounts for measurements errors and tests for unidimensionality (Hair et al. 2010). To assess the Goodness of Fit (GOF) of our CFA model, we evaluate the commonly used Chi-square, degrees of freedom, as well as one absolute fit index (RMSEA) and one incremental fit index (CFI) as recommended by Hair et al. (2010). Our CFA model GOF indexes are: Chi-square=594.79, df=357,

P-value=0.000, RMSEA=0.05, CFI=0.98. We can see that the measurement model is not significantly different from the observed model at the 5%-level, however according to Hair et al (2010) this can often be expected and accepted for models with sample size over 250, and more than 30 observed variables, as is the case here. The RMSEA is well below the recommended 0.7 level, and CFI is well above the recommended 0.9 level. We therefore conclude that our CFA model has good fit indexes and good measurement model validity (Hair et al. 2010), and we therefore continue by looking at the different measurements' validity.

### **6.3. Measurement Validity**

Validity is the extent to which the measures accurately represent the concepts of interest (Hair et al. 2010), and includes several subgenres:

#### **6.3.1. Content Validity**

Content validity (or face validity) is the subjective assessment of whether the individual items measure the construct sensibly, and is usually done through the subjective judgments of experts (Hair et al. 2010). Our items are mostly based on scales from previous research, which combined with the pre-test feedback, and comments from this paper's supervisor, we conclude that content validity is satisfactory.

#### **6.3.2. Convergent Validity**

The items that indicate a specific construct should have a high degree of variation in common, also known as convergent validity, and is typically measured by the standardized factor loadings and Average Variance Extracted (Hair et al. 2010). A full overview of all factor loadings and t-values can be found in Appendix III. Factor loadings should at least be statistically significant in the CFA, which they are in our case. Second, the loadings should be 0.5 or higher to have any practical significance, and preferably 0.7 or higher (Hair et al. 2010). In our model, we found several items with low loadings: Q3\_4 -> "Accessibility" (loading of 0.34), Q3\_6, Q5\_1, Q5\_3 -> "Time Saving" (loadings of 0.37, 0.24, 0.32 respectively), and Q6\_4 -> "Adoption" (loading of 0.40). These items are therefore all candidates for deletion (Hair et al. 2010). As the respective constructs still have at least three items, we

decided to delete these items with low factor loading as they did not contribute to the model. As a result, all remaining factor loadings in the CFA are above 0.5, with six under the 0.7 level. We choose to accept these factor loadings, as they all contribute with unique values to the constructs, and they all contribute to acceptable Chronbach’s alpha values.

In addition to factor loadings, we look for the average explained variance (AVE) to be 0.5 or higher, which means that the construct explains more variance than error (Hair et al. 2010). The AVE of the constructs can be found in Table VIII:

<b>Construct</b>	Ease of Use	Accessibility	Reliability	Time Saving	Return on Time	Adoption	Price Premium
<b>AVE</b>	0,5154	0,5153	0,5774	0,6177	0,5052	0,7376	0,9605

*Table VIII*

As we can see from the table, all constructs have an AVE above the recommended 0.5 level.

Based on the discussion of factor loadings and AVE, we accept the convergent validity of our constructs.

**6.3.3. Discriminant Validity**

Discriminant validity is the degree to which a construct is truly different than other constructs, i.e. the extent to which a construct does not correlate with constructs from which it is supposed to differ. First, we see that there are no cross-loadings in our model, i.e. no item is a measure for several constructs (unidimensionality). By looking at the latent variable correlation matrix (from LISREL output), found in appendix V, we see the correlation between the independent latent variables “Ease of Use”, “Accessibility” and ”Reliability” are above 0.8, which indicates high inter-correlation (Hair et al. 2010). This means that discriminant validity may be an issue. In order to truly test the model for discriminant validity, we perform the most rigorous test suggested by Hair et al. (2010) and Malhotra (2010), and that is to compare the Average Variance Extracted (AVE) of the constructs with the squared correlation estimate of the construct, found in Appendix VI. If the AVE is higher than the squared correlation estimate, the construct has high discriminant validity. For

simplicity, we created a matrix that subtracts the squared correlation estimate from the AVE, where a negative number represents low discriminant validity, found in Appendix VII. As highlighted by red in the matrix, the three design characteristic constructs “Ease of Use”, “Accessibility” and “Reliability” have negative values, meaning they do not have satisfactory discriminant validity. In other words, these constructs are not distinct from each other, as we suspected, and may cause problems later in data analysis. Hair et al. (2010) explain: *“these types of inter-correlations complicate the interpretation of relationships because it is more difficult to ascertain the effects of a single construct owing to their interrelationships”*. It is also suggested that high inter-correlation between independent variables increases likelihood of Type II errors in typical multivariate analysis such as Structural Equation Modeling done in LISREL. The other four constructs have acceptable discriminant validity.

As a consequence of very low discriminant validity, i.e. the three constructs are not distinct from each other; we merge the three design characteristics into a new exogenous latent variable branded “Time Design”. This variable is meant to measure the effect of using service design with the purpose of creating time saving benefits, as explained in 4.1. Hypothesis development. The new model with “Time Design” can be found in Appendix VIII. As we have changed the measurement model, we must again evaluate its GOF and measurement validity of the new latent variable.

#### **6.4. “Time Design” Measurement Validity**

In the following, we discuss the validity for the new latent variable “Time Design”. Merging the three characteristics into the new variable has its basis in the qualitative interviews conducted with designers as well as discussion with our thesis supervisor, and we therefore accept its Content Validity. Concerning convergent validity, all factor loadings are above 0.5, with a few below 0.7, and the construct has an AVE of 0.5361, which is above the acceptable 0.5 level. As before, we believe all items contribute uniquely, and accept the convergent validity of our new construct. Concerning discriminant validity, the highest correlation for Time Design is with Time Saving, a correlation of 0.7. Again applying the stringent discriminant validity test, we square 0.7, and

compare it to the constructs AVE.  $0.7 \times 0.7$  equals 0.49, well below the AVE of 0.5361. We therefore accept the new constructs discriminant validity.

Although there are very slight changes in the other four constructs' path loadings, t-values, AVE and inter-correlations, they are all within acceptable levels as before the change of the exogenous latent variable.

Lastly, we must again evaluate the new measurement models GOF for CFA purposes as a consequence of changing the exogenous latent variables (model can be found in Appendix VIII). The parameters are as follows: Chi-square=650,89, df=368, P-value=0.00000, RMSEA=0.050, CFI=0.98. We can see that the measurement model is not significantly different from the observed model at the 5%-level, however according to Hair et al (2010) this can often be expected and accepted for models with sample size over 250, and more than 30 observed variables, as is the case here. The RMSEA is well below the recommended 0.7 level, and CFI is well above the recommended 0.9 level. We therefore conclude that our CFA model has good fit indexes and good measurement model validity (Hair et al. 2010).

As seen in Appendix VIII, the model has slightly lower path loadings, but overall higher t-values, meaning we are more confident in each path's effect. As the model fit is good, and the discriminant validity problem is solved, we continue by looking at construct Reliability.

### **6.5. Reliability**

Reliability refers to the degree of which a scale produces consistent results if repeated measures are made, or in other words to what degree the observed variable measures the true value and is free from errors (Hair et al. 2010). Chronbach's Alpha is considered the most common measure of reliability. Table IX summarizes the reliability coefficients of our study:

<b>Construct</b>	<b>Number of items</b>	<b>Chronbach's alpha</b>
Time Design	14	0.845
Time Saving	4	0.781
RoT	6	0.829
Adoption	3	0.810
Premium Price	2	0.960

*Table IX*

As the table shows, all constructs have a Chronbach's alpha value above the recommended 0.7 level (Hair et al. 2010). The table shows that all constructs meet the required three items demands (Hair et al 2010), except for "Price Premium". As this construct measure a very specific and easy to articulate attitude, we do not believe the construct needs additional items. We therefore deem the reliability of all our constructs as satisfactory.

### 6.6. Issues in Model Identifications

We did have some model identification problems that must be discussed. We observed that the path between Q3\_8 and "Price Premium" had a standardized factor loading of 1.01, which is theoretically impossible (Hair et al. 2010). Upon further investigation, we found that the path had a negatively estimated error variance, a so-called Heywood case. The LISREL software produced a solution, but the model did not fully converge. This is probably because the "Price Premium" construct only had two measurement items, and deleting the offending item was therefore not acceptable. We did not have opportunity to add additional items at this point, so instead we assume tau-equivalence as recommended by Hair et al. (2010). This means we fix both unstandardized loadings on Price Premium equal to one. The previous unstandardized path loadings were 0.96 and 1.01 for Q4\_5 and Q3\_8 respectively, so fixing both to one is not a large modification. In addition, the fit of the original and modified model were almost identical. Solving this problem, we continue with the analysis of results.



## 6.7. Structural Equation Model

Finally, we present our Structural Equation Model with paths between endogenous and exogenous variables; for hypothesis testing, see Appendix IX. Again, we assess the GOF of the model. The GOF indexes are: Chi-square=703.44, d.f. =373, P-value=0.0000, RMSEA=0.053, CFI=0.98. We see an acceptable RMSEA (below 0.7) and CFI (above 0.9). In addition, we find a significant p-value which indicates low fit, however it is expected and accepted considering the model contains more than 30 observed variables as well as a sample size larger than 250. One can see that the GOF indexes between the CFA and SEM model are very similar, which indicates a good SEM validity (Hair et al. 2010). Based on this discussion, we therefore conclude that the SEM model has good overall fit. The LISREL syntax used to model estimation can be found in Appendix X.

### 6.7.1. Modifications to SEM model

The LISREL software provides us with modification indices, which are suggestions for additional paths to be added to the model in order to improve its fit. The indices can be used to identify potential cross loadings, which can cause problems to the models validity. In our model, no such paths were evident. One has to be careful when assessing modification indices, as any changes to the model based on them need to have a sensible foundation in theory. The structural model we have specified is constructed with a very specific purpose, and any changes could likely weaken its theoretical validity. As such, we do not make any changes to the structural model based on modification indices. We do note, however, that LISREL suggests strong paths between the “Time Design” construct and “Adoption” (modification indices of 129.32, with an estimated new factor loading of 0.67), which could suggest our time design construct has a strong direct effect on adoption. However, we will not test this relationship, as the focus of this paper lies on time saving and Return on Time.

## 6.8. Analysis of Variance tests

In order to test hypotheses H5 and H6, we conduct several Analysis of Variance (ANOVA) tests. ANOVA tests whether means are significantly

different between groups, which is appropriate for looking at differences between segments as we are doing. Hair et al (2010) suggest it is easier and more common to conduct multiple ANOVA tests for few series of univariate tests, as long as the researcher conducts a form of manual adjustment. By doing several independent univariate tests, one runs an increased risk of Type I error. We therefore conduct a manual Bonferroni correction (Hair et al. 2010). This means to adjust  $\alpha$  to a more strict level, by dividing the overall  $\alpha$ -level by the number of tests  $k$ , in this case  $\alpha/k = 0.05/2 = 0.025$ .

We computed two new variables in SPSS for “Price Premium” and “RoT”, representing the means of these constructs’ respective items. Next, these dependent variables were tested between the three segments. The segments are based on age, total number of children, and total number of children living at home, as explained previously. The means can be found in Table X.

<b>Construct</b>	<b>Segments</b>	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>
Premium Price	<i>Young Free and Simple</i>	168	4,75	1,53
	<i>Chaos in My Life</i>	83	4,49	1,38
	<i>Got my Life Back</i>	60	4,95	1,40
	Total	311	4,72	1,47
RoT	<i>Young Free and Simple</i>	168	5,01	0,87
	<i>Chaos in My Life</i>	83	5,11	0,73
	<i>Got my Life Back</i>	60	5,03	0,73
	Total	311	5,04	0,81

**Table X**

Sample size is crucial discussion of ANOVA testing. Hair et al. (2010) suggest several criteria: each group should have a larger sample than there are dependent variables, and the group sample size must be at least 20. Our analysis meets both these requirements, as our smallest group has 60 respondents. In addition, Hair et al (2010) recommends that group sample sizes should be approximately equal, however they admit that modern computer software (such as SPSS) easily accommodates this.

## 6.9. Hypothesis Testing

This section shows the results of the data analysis from Structural Equation Model in LISREL and Analysis of Variance from SPSS.

### 6.9.1. Hypothesis outline

First, we present Table XI, outlining our hypotheses:

<i>H1: Time Design has a positive effect on perceived Time Saving.</i>
<i>H2: Perceived Time Saving has a positive effect on Return on Time.</i>
<i>H3: Return on Time has a positive effect on Adoption.</i>
<i>H4: Price Premium has a negative effect on Adoption.</i>
<i>H5: Return on Time perceptions are different between the three segments.</i>
<i>H6: Price Premium perceptions are different between the three segments.</i>

**Table XI**

### 6.9.2. SEM Results

Next, we present Table XII with test statistics and conclusions for SEM hypotheses:

<b>Hypothesis</b>	<b>Std. Path Loading</b>	<b>Test-statistic</b>	<b>Conclusion</b>
H1: Time Design -> Time Saving	0.70	t-value = 8.34**	Supported
H2: Time Saving -> RoT	0.29	t-value = 4.36**	Supported
H3: RoT -> Adoption	0.20	t-value = 2.96*	Supported
H4: Price Premium -> Adoption	-0.39	t-value = -6.13**	Supported

**Table XII**

\*Significant at the 0.01 level

\*\* Significant at the 0.001 level

Table XII shows the results and conclusions of the structural equation modeling for hypothesis one to four. Hypothesis one (H1) suggests that Time Design has a positive effect on perceived time saving. The results from the SEM show that the hypothesis is supported ( $t = 8.34$ ,  $p < 0.001$ ), and that the path loading represents a strong positive effect. Hypothesis two (H2) suggests

that a perceived Time Saving benefit has a significant positive effect on consumers RoT. This hypothesis is supported ( $t = 4.36, p < 0.001$ ) Hypothesis three (H3) suggest that RoT has a positive effect on Adoption. This relationship was found significant ( $t = 2.96, p < 0.01$ ). Hypothesis four (H4) suggests that Price Premium perceptions have a negative effect on adoption. This hypothesis was found significant ( $t = -6.13, p < 0.001$ ).

### 6.9.3. ANOVA results

Next, we present a table XIII with test statistics and conclusions for ANOVA hypotheses:

Hypothesis	d.f.	Test-statistic*	p-value	Conclusion
H5: RoT differ across segments	2	F-value = 0.487	0.615 (n.s.)	Not supported
H6: Price differ across segments	2	F-value = 1.774	0.171 (n.s.)	Not supported

*Table XIII*

\*Full ANOVA test-statistics and means can be found in Appendix XI

Hypothesis five (H5) suggested that consumers would have different RoT evaluations between different segments based on lifestyles. However, the hypothesis was not supported ( $p = 0.615, n.s.$ ). Hypothesis six (H6) suggests that premium price perceptions will differ across segments, because the segments should have different perceptions of what how much monetary resources it is actually worth to spend on time-saving, and in turn optimizing RoT. The hypothesis was not supported ( $p = 0.171, n.s.$ ).

## 7. Discussion

The purpose of this study was to uncover a way of increasing innovations' success on the market through establishing links between two emerging concepts: Service Design, and Return on Time. Although being efficient is at the core of service convenience and satisfying consumer needs, it has not yet been proven that a service innovated through design, with the purpose of saving time and thus providing Return on Time benefits, can have a higher likelihood of adoption.

The present research developed a conceptual model illustrating a Time Design construct built on three main service design characteristics and their relationship with time concerns and commercial consequences. These relationships have been tested through four hypotheses. In addition, the study has tested two other hypotheses testing differences in Return on Time and Price between three distinct segments of consumers: "Young, free and simple", "Chaos in my life", "Got my life back", adapted from Andreassen, Calabretta and Olsen (2012A). In this section, we will discuss the conclusions of our research.

The three design characteristics "Ease of Use", "Accessibility" and "Reliability", creating Time Design, were chosen based on the triangulation of appropriate literature review, and extensive qualitative research of both designers and consumers. The literature revolved around research done in slightly different contexts; however, the qualitative research was very specific and pragmatic for our context of time saving service design. This triangulation suggested that Time Design, built on the three design characteristics, would give consumers time saving benefits - if successfully included in the service design.

Ease of use, perceived as the complexity of performance and level of effort required to use a system, is essential in determining consumer decisions and behaviour. Therefore, a service that is designed to be easy to use should require less time or usage than a more complex service. Thus, ease of use could increase likelihood of adoption of a new service through its contribution to Time Design and consequently, Time Saving.

The concept of Accessibility refers to the time and effort a consumer has to use for initiating a service delivery (Berry et al. 2002; Seiders et al. 2007) and it incorporates features like location, opening hours, information availability and visibility, parking availability, capacity, flexibility and so on. Our proposition was that service design can better understand and create a more efficient and accessible customer-journey, such that users will benefit from time saving when using the service.

Our paper looked at Reliability as a service's ability to be performed accurately, as expected, and in a consistent way (Parasuraman et al. 1985). Since consumers constantly evaluate Reliability, (i.e. after each use), the service has to be designed to be reliable every single time, reducing to zero the discrepancy between consumers' expectations and perceptions of the time required for service-delivery. Services designed to be reliable should give time saving benefits.

As we argued in "6.3.3. *Discriminant Validity*", the constructs do not have acceptable discriminant validity, as they inter-correlate. This means that the three constructs are empirically too similar and not sufficiently unique. As a result, we merged the three characteristics into one construct, Time Design. Dabholkar (1996) had similar difficulties in his research on consumer evaluations of technology-based self-service, where he discovered high inter-correlations between his constructs "ease of use", "reliability" and "speed of delivery". The reason behind our high inter-correlations may be that the constructs are too closely related from a conceptual point of view. A service that is accessible may be perceived as easy to use because it is easy to initiate service-delivery or acquire assistance if needed. Furthermore, an accessible service may be perceived as reliable because consumers believe the service-delivery is consistently available/ accessible to them. In addition, a service that is easy to use may be perceived as reliable, because it is easy for the consumer to acquire the result they expect. Although the three design characteristics may create time saving benefits in different ways, it is clear that the constructs are too similar to separate their effects on the interrelationships of our model.

The three characteristics may be too closely related because they are conceptually too broad, especially when evaluated in a service design context

that by its very definition is broad and holistic. In contrast, the researches we have based our constructs on define the constructs more narrowly. For example in Seiders et al. (2007) accessibility was limited to location, opening hours, and parking availability in a more specific retailer setting. However, we included additional factors such as employee and information accessibility, as well as waiting time, in a broad service journey setting including *all* touchpoints where consumers evaluated the *total* brand performance. Since our design characteristics' measurements were so extensive, it made sense to create one broad construct, Time Design. The interconnectedness of the three characteristics might suggest that all three must be present in service design to create time saving benefits. If a service is accessible and easy to use, but not reliable, consumers may not perceive any time saving value added. However, we do not suggest the three characteristics represent an exhaustive list for time saving, but rather an essential foundation.

We proposed that Time Design has a positive influence on Time Saving, which was supported. Thus, using design can create time saving benefits. Time saving and service design today are so interconnected, that there could not be one without the other. Time saving and efficiency are vital benefits that service design has to consider and incorporate, since they are at the core of customer demand. It becomes even more important when considering that failure to meet consumer expectations regarding time concerns may result in dissatisfaction and customer defect.

Core to this paper is the Time Saving construct, which stands at the center of customer needs and represents a basic requirement for achieving customer satisfaction. We proposed that Time Saving has a positive effect on RoT and this was supported. This makes sense as Time Saving is a conceptual part of Return on Time, and consumers who value and perceive time saving benefits are consumers who seek to maximize their RoT.

The whole purpose of aiming to satisfy customer needs through value added propositions is to persuade consumers into repeat purchase, in order to obtain positive commercial consequences. Thus, using design methodology to include RoT benefits in innovations that would please consumers should lead to increased likelihood of adoption. The hypothesis we proposed in this sense was

supported by our research results. Therefore, our analysis has managed to prove that consumers who seek to maximize their RoT through consumption present a higher likelihood of adopting services that are designed for time-saving (such as Flytoget). In other words, services that are designed to increase consumers' RoT have an increased likelihood of being adopted.

Considering the effect RoT has on consumer preferences, one important consequence that follows is the decrease in the non-monetary cost of the service that manages to provide such benefits for the consumer. Thus, the monetary cost may increase, allowing companies to charge a premium price for their value-added services. While this is true in our case, it is also clear that price perceptions affect demand. Hence, managers have to be very careful with price levels, since premium prices are only accepted until a certain point. Beyond this acceptance point, a premium price can negatively affect likelihood of adoption, as stated in the fourth hypothesis, which was found to be valid in our analysis. The more expensive consumers perceive a service to be compared to relevant alternatives beyond what is perceived as fair, the less likely they are to adopt it.

Furthermore, we adopted a segmentation rationale from Andreassen, Callabreta and Olsen (2012A), based on consumers' different lifestyles and expectations for their time expenditures. It is expected that perceptions on RoT are different between the three segments: 'Young, Free and Simple', 'Chaos in My Life', and 'Got My Life Back'. Still, this hypothesis was not supported. This is curious at first glance, as our segments are based on criteria where consumers should have very different time-constraints, and therefore have different degrees of satisfaction regarding their Return on Time. However, one explanation may be that time is a universally relevant concept, and that all consumers, regardless of lifestyle, seek to maximize their well being through effective time management. As time is a valuable resource for everyone, and everyone strives to get the most out of it, consumers seem to generally have similar perceptions of their own time-management. The table X in "6.8 Analysis of Variance Results" shows the similar mean values across segments, as well as the total mean of 5.04 for all respondents. A 5 in the RoT scale of our survey is barely higher than the neutral 4 value (on the seven-point scale),



which could translate into a hypothetical “I am somewhat content with my Return on Time” across all five questions (i.e. “I somewhat agree I manage my time well, I somewhat agree I get a lot out of my time, I am somewhat close to ideal time usage, I am somewhat satisfied with the outcome of my time spent, I have a somewhat better outcome of time spent compared to friends and family, I have a somewhat higher outcome of time spent than expected”); see Appendix II for full questionnaire and scale). The mean response of 5.04 across segments can be interpreted in different ways. It can be that consumers are aware and concerned about their RoT, but that there is also general room for improvement, i.e. RoT is a valuable benefit in solutions consumers will appreciate. In addition, RoT is a complex, personal and sensitive construct. Reporting one’s own RoT may be seen as social expose in today’s hectic society, as proper time management is a potential source of social status. Therefore, we believe that self-reporting of RoT attitudes and evaluations may be slightly biased, as respondents may avoid honest answers. This is perhaps a reason why responses are close to neutral across all segments and respondents.

Furthermore, as consumers’ lifestyles are different, we suggest their willingness to pay for time-related benefits are as well. Therefore, Premium Price perceptions are expected to differ between the different segments. Unfortunately, this hypothesis was not supported either. As Premium Price has a significant effect on Adoption (as shown in fourth Hypothesis), this may suggest that our segments based on lifestyles are not adequate, and that other segmenting variables could be more appropriate, such as household income. As the mean responses between segments are not significantly different, we look at the total mean value across the three segments: 4.72. This may be interpreted as slightly above neutral, and respondents “somewhat agree” that Flytoget is premium priced compared to alternatives. In other words, Flytoget is neither perceived as low priced, nor high priced. The reason may be that respondents consider the value they get for their money when appreciating premium price levels. The more value they perceive they get, the more fair they believe the price to be. It cannot be discussed here whether Flytoget is objectively premium priced compared to alternatives, because the actual price of alternatives is difficult to establish. The respondents may not see Flytoget as

priced premium, because within each segment they have different perceptions of what the alternatives to Flytoget are. For instance, one “Young, Free and Simple” respondent may not own a car, whereas another respondent from the same segment may do. The two will have different immediate perceptions of what are the alternatives to Flytoget, and what their relative cost of travel would be. Another explanation may be that Flytoget already segments based on premium price perceptions, e.g. many “Young, Free and Simple” consumers are students, who receive a significant discount at Flytoget. In addition, the main target group of Flytoget is traveling business people, who often get a refund for their costs from their companies, and therefore do not reflect on the price level of Flytoget. Regardless of our empirical findings, extensive literature shows that businesses can charge a price premium for relevant value added, such as RoT benefits.

Although our analysis is based on one concrete, successful case study, our conceptual framework is grounded in literature and a thorough qualitative research, which provides this study with a high potential for generalization of the supported results across different services.

## **8. Implications**

### **8.1. Managerial**

The purpose of this study from a pragmatic view is to bridge the current gap between design and management. Design has traditionally been viewed as abstract and ambiguous, that only a certain type of people will appreciate. We believe managers, who acquire knowledge of design-methodology and are presented with design thinking success stories, will appreciate design’s effectiveness in developing new and valuable solutions. This will in time ensure that design receives its proper place in managers’ strategic marketing tool-box. Sangiorgi (2009) positions service design’s role (focused on the service interface) between service management (focused on the service organization) and service marketing (focused on service offering and market), and therefore argue it deserves greater attention from market-oriented businesses.

The main research finding of this paper is that managers can use design-methodology to deliver time saving benefits in service innovations, either from a

holistic view of the entire customer journey or within individual touchpoints. Time Design and Time Saving imply focus on our three design characteristics working together as essential parts of service innovation regarding time saving. Managers and designers could use these characteristics as guidelines (or a “check-list”) to provide consumers with the added value of time saving. Although the three design characteristics are not exhaustive, they form a basis for managers to consider in service design. Managers may cooperate with trained designers and use design-methodologies (such as service blueprinting, and prototyping) to identify touchpoints of an innovation with potential for additional time saving. A touchpoint could perhaps be easier to use, more accessible, or more reliable, and by improving these characteristics within a touchpoint, a service could offer time saving benefits to its users. This may be done for existing services, or new services in development.

Managers may survey current customers on their company’s performance on the three design characteristics, in order to map areas of improvement. In addition, a manager may survey their score on the design characteristics compared to their competitors and substitutes, and find areas of differentiation that may be leveraged, or areas of parity to establish competitive frame of reference (Keller, Sternthal and Tybout 2002). However, we must emphasize that managers who use the three design characteristics uncovered in this paper do so at their own risk until they are empirically validated.

Managers evaluate their marketing strategies based on the financial potential, which is why we researched the commercial consequences of our proposed strategy. As previously suggested, the managerial goal of any (service) innovation is adoption and customer retention, because of the strong links with profitability.

Businesses who design services where consumers perceive a time saving benefit, will in turn improve consumers’ RoT. This is something consumers value, and this consequentially increases the likelihood of adoption of a service and potentially reduces managers’ risk aversion towards innovation. RoT is a universal and influential concept that has recently emerged, and it is time RoT receives the commercial attention it deserves. Managers who are aware of the potential of RoT, and know its commercial implications, will have an advantage over their competitors. Time saving is just one half of the RoT concept, where time spending

for self-fulfillment is the other half. Consumers want to spend their time more meaningfully, and managers can help them acquire the additional time to do so through consumption of time saving solutions. Managers who appreciate the full RoT construct can therefore also help consumers spend their time more meaningfully, although this was not covered in our research empirically. As the trend of RoT will likely remain important in society for the foreseeable future, it is a source of long-term, sustainable competitive advantage for those who appreciate it. Managers who leverage RoT advantages in their solutions will certainly enjoy customer loyalty and above average profitability.

RoT was found to be a universal concept that had no difference in importance across our three segments. This suggests that managers can offer RoT benefits to all their customers, regardless of lifestyle, which is a powerful realization.

Time saving benefits and RoT maximization is not only relevant for managers of routine services, such as public transport, grocery shopping or fitness centers, but also more hedonistic motivated services, such as spa treatments or boat cruises. All services have touchpoints that can benefit from time-efficiency. Although customers do not necessarily want to spend less time in a spa treatment, they may want to spend as little time in the reception as possible, eager to initiate the core service-delivery. We must emphasize that Time Saving and RoT are individual and situational concepts. Sometimes, consumers simply want to spend more time shopping for convenience goods. Therefore, it must be up to the manager, in cooperation with designers, to develop the marketing strategy and design time saving in the appropriate touchpoints.

We suggest throughout this paper that RoT is perhaps one of the strongest value-offerings in today's markets, especially for services where consumer coproduction is dominant. Managers can therefore add a premium price on their service compared to alternatives that do not provide consumers with RoT benefits, given that consumers perceive this benefit. In other words, it is a manager's responsibility to ensure their consumers perceive Time Saving, meaning simply designing an objectively more time-efficient service may not be enough. Interestingly, many of the users interviewed for this study said they chose convenient and time saving solutions, but did not necessarily reflect on the actual Time Saving benefit. Despite not thinking about the time saving value, they were

willing to pay a premium for that convenience. It appears time saving is such a strong and desirable value added that consumers subconsciously prefer it. Although managers are able to charge a premium price for the time saving added value, price may only be raised to a certain level. Managers must strive to identify the balance between premium price and willingness to pay for the service's added value, perhaps through more traditional market research and customer surveys.

Managers may also segment their customer base based on lifestyles, and offer different price levels to the different segments. Despite the fact that our research did not find empirical differences of premium price perceptions between segments, we conclude that this is because our success-case, Flytoget, already has established price strategies for different segments, similar to our lifestyle segments. Since lower premium price perceptions positively affect adoption, managers can increase adoption of price-sensitive customer segments by offering lower prices. Managers who are launching a new service on the market may use a penetration price, build up a customer base, communicate RoT benefit, and slowly raise price to a premium level. Savvy marketing managers can then do Customer Lifetime Value analysis of their customers to identify the appropriate balance between premium price setting, customer retention (improved through RoT benefits) and customer base size, in order to maximize profitability (e.g. see Gupta and Lehmann 2003).

In addition to the consumer benefits of design, we briefly presented other cost benefits for managers. For instance, including design thinking earlier in the innovation process than usual, allows for solutions to be prototyped, tested and evaluated earlier than normal and before large costs are acquired. This gives priority to promising solutions and ultimately increases an innovation's success rate. In addition, designers can through their capabilities and knowledge reduce costs of manufacturing, storage, logistics, etc.

Designing services may be more challenging than designing tangible goods, as the results of service-delivery will often vary. Managers therefore need all the help they can get from service designers to ensure the results of service-delivery are valuable for the customer. Today's innovation methods have their basis in the industrial revolution, and as services become more dominant in the modern

economy, managers need to re-evaluate their methods. Design thinking may be the solution.

## 8.2. Theoretical

In this section, we present how our paper contributes to the literature within our context. Firstly, our research links design thinking with trend spotting. Although there has been extensive literature written on design, design effectiveness, and design management, these papers have not identified specific design characteristics that give value to innovations. Other research has established some specific design characteristics that lead to service quality, or service adoption, but no literature has to our knowledge identified specific design characteristics that make service consumption more time-efficient. Although our research on design characteristics was not empirically tested, our qualitative research has formed the basis for further investigation. Most importantly, our research is the first to empirically prove the effectiveness of using design to create time saving benefits for consumers. This opens a whole new direction for design literature by connecting it with trend spotting and time concerns, shaping the future of the design concept.

The service design literature is still evolving, as researchers struggle to define the theoretic scope of the concept. This paper has set the stage for a more pragmatic approach to service design management, and suggests that new research should follow our example as service innovations are generally suffering from low customer satisfaction. One of the core notions for the paper is the service dominant logic of Vargo and Lusch (2004A). This paper continues to evolve this notion, and argues for the complementarity of the service dominant logic and service design.

The theoretical concept of RoT is very new, and at present there are only a few working papers in existence. We build on this theoretic research, and test its validity in a more pragmatic context. The finding that perceived Time Saving appeals to consumers' RoT was empirically validated. Perceived Time Saving has therefore been established as a necessary antecedent of RoT. Further, RoT leads to increased likelihood of adoption of a service, which is a significant finding for the continuing development of RoT and its relevance in a service

context. The attention given to consumption of time saving solutions also helps bring the service convenience literature one step further.

Although some literature has previously established design's effect on financial performance, this research suggests that using design to create Time Saving value for consumers increases likelihood of adoption of the service and allow a premium price strategy - two powerful drivers of financial performance.

By investigating differences of RoT and Premium Price (for time saving benefits) between segments, our research seeks to build on marketing segmentation theory by suggesting new segment criteria. Although the two segment hypotheses were not supported in our case, they may be applicable in different contexts.

## **9. Limitations**

This section discusses the limitations of our research.

Flytoget is a great example of successful service design. However, other disciplines have also contributed to Flytoget's success. Although we believe service design is an important contributor to time saving aspects of the service, there are other factors of Flytoget development that give time-related features to the service, e.g. engineers who designed the aerodynamic train contributed to reliability, previous technology added to ease of use, and local infrastructure contributed to accessibility. In addition, Flytoget is only one specific type of service, a high-speed public transport between two fixed locations. Therefore, our research must be applied in other service settings for the findings to be relevant for services in general.

To assure our respondents would be able to answer our questionnaire appropriately, we used a screening question that excluded consumers who had not used Flytoget previously within the last year. In other words, the respondents we retained for data analysis were already loyal customers of Flytoget who had adopted the service. Asking these customers about their loyalty may therefore seem counter-intuitive, as loyalty should be high across all respondents. In addition, Flytoget has Norway's highest customer satisfaction and loyalty in 2012, which support the notion of Flytoget's commercial success, but again, it also brings some bias to the measurement of adoption. In addition, one could say that

consumers who are loyal to a time saving service prefer time saving, and in turn have a high RoT. We did not have any control group for our data analysis, meaning that any discussion on relative time saving or adoption rates compared to other services is unreliable.

In our questionnaire, we used the Flytoget brand to ensure respondents included the entire customer journey throughout the service in their judgments. This may have biased some respondents who for instance, are very satisfied with Flytoget as a brand, and therefore respond favourably to time saving of a touchpoint when they in reality may not believe the touchpoint is well designed for time saving.

We made several conclusions about the premium price perceptions of Flytoget, although measuring this proved difficult. Flytoget apparently already operates with discounts and other price strategies to certain segments. In addition, Flytoget's largest customer base consists of business travellers who often get refunded the costs from their respective companies. Because we did not have any alternative service to Flytoget we could not survey respondents' willingness to pay for time saving benefits. We simply assumed time saving was such a strong added-value of Flytoget, that it would be essential in respondents' evaluation of premium price.

Our research on the concept of Return on Time has only empirically measured the time saving aspect, despite time spending being an equally important part of the construct. As such, when we discuss the RoT construct and its implications, we cannot discuss its full meaning. Our total sample consists of a majority from the "Young, Free and Simple" segment in terms of size, which may have skewed the Structural Equation Modeling data analysis in favour of this segment's perceptions. Lastly, we translated scales from previous research from English to Norwegian in our questionnaires, which may have diluted the meaning of certain words and phrases.

## **10. Further research**

Based on our qualitative research and existing literature, we developed three design characteristics, which included in innovations, would enable the new solutions to provide consumers with RoT benefits. Although the construct Time Design, which is based on the three design characteristics, was found to significantly influence Time Saving, we were not able to research the effects of



the three individual characteristics. Therefore, we believe more thorough definitions and analysis of Ease of Use, Reliability and Accessibility would prove their linkage to Time Saving and RoT. In the future, researchers could develop and validate a more extensive design characteristic scale for time saving, where constructs should be more strictly defined. It could also help to test the constructs in a narrower context than the whole customer journey throughout a service.

In addition, our Structural Equation Modeling's modification indices suggest that there might be a stronger, direct relationship between Time Design construct and Adoption, regardless of time saving benefits. Thus, a further analysis in this sense could be conducted.

Although Flytoget is a very successful example of design methodology inclusion in innovations, analysis on other designed services would enable more generalized findings. Even more, comparing our findings with services where design methodology has been less central could confirm the importance of design use. For now, based on our findings, we assume that using design as a strategic tool is more effective for time saving than not using it.

Also, this research could be extended in product settings, since this could again allow a more extensive generalization of the findings, broadening the applicability of research. Considering products is a valid proposition, since the emergence of convenience products attest effectiveness. Like a service, an easy to use, reliable and accessible product can contribute to time saving, positively affecting ROT. Applying the research to various settings and examples of services and products can reveal the accountability of design success factors, serving managers with a to-do checklist.

Segmentation variables for ROT should be reconsidered in future researches. Adding household income, education, employment, considering how active consumers are, how much time they have according to their number of working hours per week and so on could be of high relevance when defining consumer segments in relation to time. Also, geographic location could be an important factor to consider, since urban consumers are generally perceived to be more time-constrained (transportation, rush hours etc), which will in turn affect their preferences for ROT solutions. Researchers could further determine if ROT

actually is an individual and situational concept and whether it is correlated with social status in today's society.

Moreover, ROT is a complex concept and this research has only looked at one side of it: time saving. Thus, further research could look into how design can be used for creating better time spending and into the value of time spending influences on ROT. This way, researchers could determine a clearer understanding of how consumers' well being can be improved.

# 11. Appendix

## Appendix I: Example of Flytoget Advertisement

KITCHEN | Foto: Margareta Wefvén

FOR FLYTOGETS  
MEDARBEIDERE BETYR  
TID NOE SPESIELT

Vi vet at tiden er dyrebare for deg. Det er den i aller høyeste grad for oss også. Derfor er det ingenting i Flytoget som er "sånn circa". Det er noe alle Flytogets over 300 medarbeidere vet. Presisjon og nøyaktighet i hvert eneste ledd er en forutsetning for at vi kan kjøre 225 avganger i døgnet med høy punktlighet. Det er vårt fokus på tid som gjør at våre passasjerer kan tenke mindre på tid.

  
Lena

  
Trine

  
Morten B

  
Rune E



Enkleste og raskeste vei til og fra Oslo Lufthavn

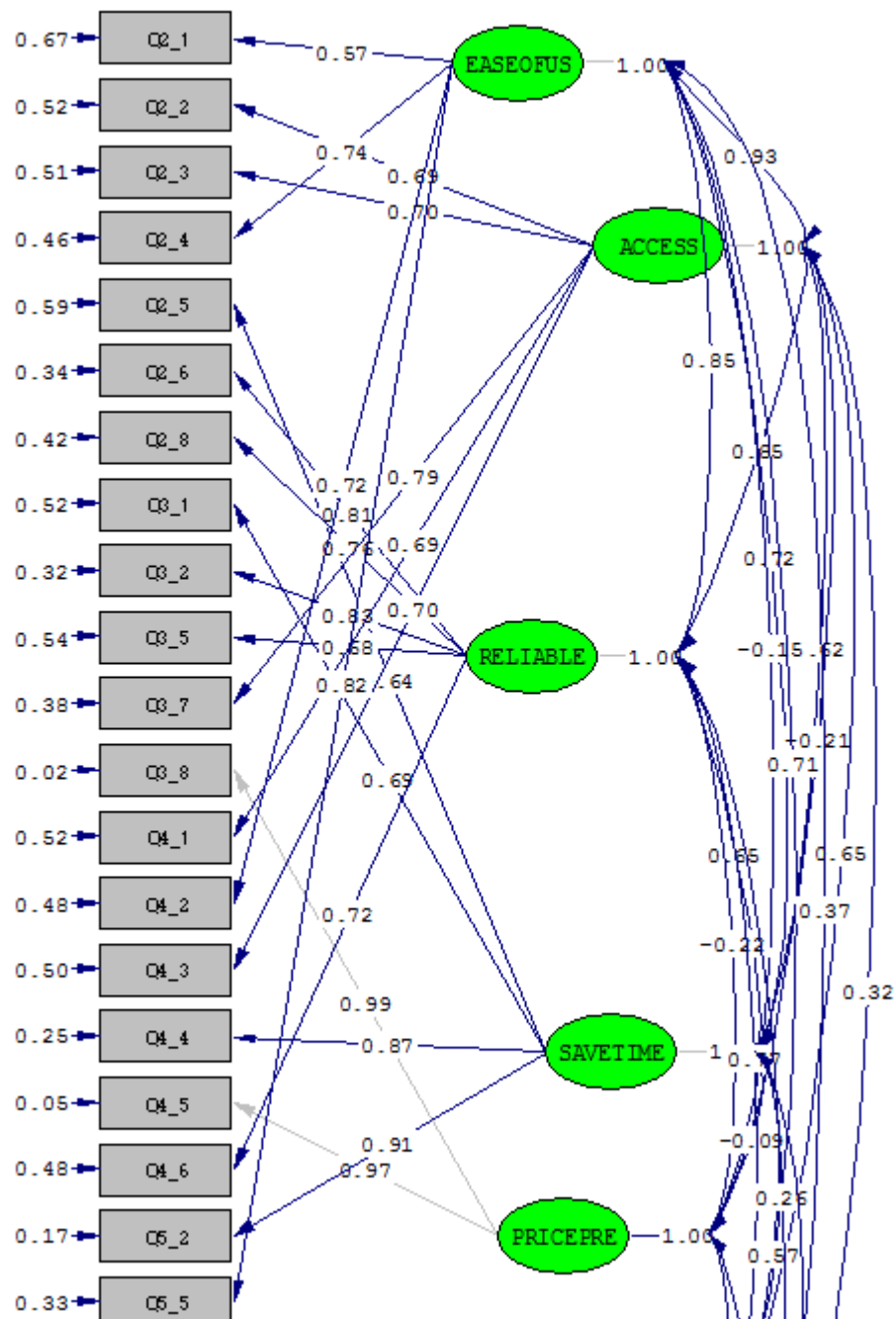




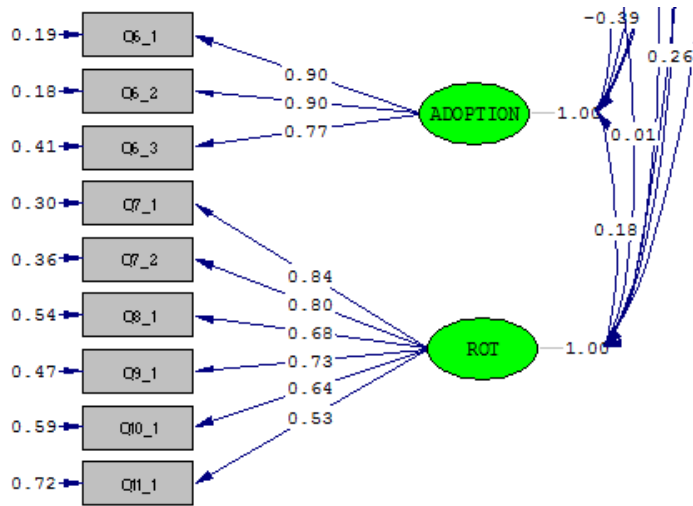
		Ja	Nei					
Q1_1	Har du tatt Flytoget innen det siste året?							
		Sterkt uenig			Sterkt enig			
Q2_1	Alt i alt, å ta Flytoget er komplisert for meg.	1	2	3	4	5	6	7
Q2_2	Flytoget går til praktiske tider.	1	2	3	4	5	6	7
Q2_3	Beliggenheten til Flytogets stasjoner er praktisk.	1	2	3	4	5	6	7
Q2_4	Jeg synes det krever lite innsats å ta Flytoget.	1	2	3	4	5	6	7
Q2_5	Å kjøpe Flytogets tjeneste er mer effektivt enn å komme meg til og fra Gardemoen selv.	1	2	3	4	5	6	7
Q2_6	Flytoget er pålitelig.	1	2	3	4	5	6	7
Q2_7	Flytogets avgangstider tillater meg å reise når det passer meg.	1	2	3	4	5	6	7
Q2_8	Flytoget er punktlig.	1	2	3	4	5	6	7
		Sterkt uenig			Sterkt enig			
Q3_1	Tidsbesparelse er en viktig fordel med Flytoget.	1	2	3	4	5	6	7
Q3_2	Flytoget får meg til og fra Gardemoen uten problemer	1	2	3	4	5	6	7
Q3_3	Jeg føler meg delvis ansvarlig for effektiviteten av Flytoget's tjeneste	1	2	3	4	5	6	7
Q3_4	Informasjon om Flytogets tjenester er tilgjengelig for meg når jeg trenger det. (f.eks. rutetabell, rettningsbeskrivelse etc.)	1	2	3	4	5	6	7
Q3_5	Flytoget får meg til og fra Gardemoen trygt.	1	2	3	4	5	6	7
Q3_6	Jeg synes Flytogets billettsystem er tidskrevende.	1	2	3	4	5	6	7
Q3_7	Flytoget er lett tilgjengelig for meg.	1	2	3	4	5	6	7
Q3_8	Flytoget er et høy pris alternativ for å komme seg til og fra Gardemoen	1	2	3	4	5	6	7
		Sterkt uenig			Sterkt enig			
Q4_1	Det er enkelt og greit å komme seg til og fra Flytoget.	1	2	3	4	5	6	7
Q4_2	Det var lett for meg å lære å bruke Flytoget.	1	2	3	4	5	6	7
Q4_3	Ventetiden for Flytoget er akseptabel.	1	2	3	4	5	6	7
Q4_4	Jeg sparer tid med Flytoget, sammenliknet med andre måter å komme seg til	1	2	3	4	5	6	7
Q4_5	Jeg synes Flytoget har lave priser sammenliknet med andre måter å komme seg til og fra Gardemoen	1	2	3	4	5	6	7
Q4_6	Jeg synes Flytoget er tillitsverdige.	1	2	3	4	5	6	7
		Sterkt uenig			Sterkt enig			
Q5_1	Informasjonen som er tilgjengelig fra Flytoget (f.eks. kontinuerlig avgangsoppdateringer) tillater meg å effektivt planlegge turen til Gardemoen.	1	2	3	4	5	6	7
Q5_2	Flytoget hjelper meg spare tid.	1	2	3	4	5	6	7
Q5_3	Jeg kan gjøre andre ting mens jeg tar Flytoget (f.eks. lese, svare e-post).	1	2	3	4	5	6	7
Q5_4	Flytoget's billettsystem tillater meg å ha kontroll over kjøp og validering av billetten.	1	2	3	4	5	6	7
Q5_5	Jeg synes det er lett å ta Flytoget.	1	2	3	4	5	6	7
		Svært lite sannsynlig			Svært sannsynlig			
Q6_1	Hvor sannsynlig er det at du vil anbefale Flytoget til noe som kommer til deg for råd?	1	2	3	4	5	6	7
Q6_2	Hvor sannsynlig er det at du vil si positive ting om Flytoget i framtiden?	1	2	3	4	5	6	7
Q6_3	Hvor sannsynlig er det at du vil fortsette å bruke Flytoget i framtiden?	1	2	3	4	5	6	7
Q6_4	Hvor sannsynlig er det at du vil søke etter alternativer til Flytoget i framtiden?	1	2	3	4	5	6	7

	Nå vil vi gjerne spørre deg om ditt personlige forhold til tid, og hvordan du håndterer din tid.									
		Sterkt uenig		Sterkt enig						
	Alt i alt, håndterer jeg tiden min bra.	1	2	3	4	5	6	7		
Q7_1	Alt i alt, får jeg mye ut av tiden min.	1	2	3	4	5	6	7		
Q7_2		Svært fjernt		Svært nær						
	Forestill deg at du bruker tiden din ideelt... Sammenlignet med denne situasjonen,									
Q8_1	hvor nært eller fjernt er du fra denne situasjonen	1	2	3	4	5	6	7		
		Svært missfornøyd		Svært fornøyd						
	Tenk i et øyeblikk på hvordan du fordeler tiden din - på jobb, familie, venner,									
Q9_1	deg selv etc. Alt i alt, hvor fornøyd er du med utfallet av tiden du bruker?	1	2	3	4	5	6	7		
		Mye verre		Mye bedre						
	Hvis du sammenligner tidsbruket ditt og dens resultat med mennesker du vil naturlig									
Q10_1	sammenligne deg selv med, hvordan vil du bedømme utfallet av tiden du bruker sammenlignet med dem?	1	2	3	4	5	6	7		
		Mye lavere enn forventninger								
	Sammenlignet med dine forventninger til hvordan du vil bruke tiden din, hvordan									
Q11_1	vil du bedømme det totale utfallet av ditt tidsbruk på forskjellige oppgaver: jobb, familie, venner, deg selv ol.?	1	2	3	4	5	6	7		
	Vennligst velg det alternativet som best beskriver alderen din:									
Q12		0-19								
		20-29								
		30-39								
		40-49								
		50-59								
		60-69								
		70+								
Q13	Har du barn?	Yes								
		No								
Q14	Vennligst oppgi antall barn under 18 som bor i din husholdning									
Q15	Vennligst oppgi kontakt informasjon for å være med i trekning av premie									
	Denne informasjonen vil bli lagret separat fra undersøkelsen for å sikre anonymitet									
	E-mail:									

**Appendix III: Initial Measurement Model**







Chi-Square=594.12, df=357, P-value=0.00000, RMSEA=0.046

Construct	Item	Standardized Loading	t-value
Ease of Use	Q2_1	0,57	11,07
	Q2_4	0,74	17,18
	Q4_2	0,72	11,71
	Q5_5	0,82	23,34
Accessibility	Q2_2	0,69	15,27
	Q2_3	0,70	13,24
	Q3_4	0,34	17,59
	Q3_7	0,79	6,87
	Q4_1	0,69	-3,86
Reliability	Q4_3	0,70	11,81
	Q2_6	0,81	17,16
	Q2_8	0,76	12,21
	Q3_2	0,83	11,63
	Q3_5	0,68	6,11
Time Saving	Q4_6	0,72	-3,34
	Q2_5	0,64	15,24
	Q3_1	0,69	12,65
	Q3_6	0,37	10,67
	Q4_4	0,87	15,31
	Q5_1	0,24	14,41
RoT	Q5_2	0,91	8,69
	Q5_3	0,32	13,81
	Q7_1	0,84	16,40
	Q7_2	0,80	8,16
	Q8_1	0,68	5,51
	Q9_1	0,73	4,43
Adoption	Q10_1	0,64	4,21
	Q11_1	0,53	2,86
	Q6_1	0,90	12,00
	Q6_2	0,90	20,40
	Q6_3	0,77	23,12

	Q6_4	0,40	27,48
Price Premium	Q3_8	0,99	Na
	Q4_5	0,97	Na

**Appendix IV: Initial Measurement Model Syntax**

“

MASTER

Observed Variables

Q2\_1 Q2\_2 Q2\_3 Q2\_4 Q2\_5 Q2\_6 Q2\_8 Q3\_1 Q3\_2 Q3\_5 Q3\_7 Q3\_8 Q4\_1 Q4\_2 Q4\_3  
 Q4\_4 Q4\_5 Q4\_6 Q5\_2 Q5\_5 Q6\_1 Q6\_2 Q6\_3 Q7\_1 Q7\_2 Q8\_1 Q9\_1 Q10\_1 Q11\_1

CORRELATION MATRIX FROM FILE 25.COR.PCM

ASYMPTOTIC COVARIANCE MATRIX FROM FILE 25.ASYM.ACM

Sample Size=311

LATENT VARIABLES EASEOFUSE ACCESS RELIABLE CONTROL SAVETIME  
 PRICEPRE ADOPTION ROT

RELATIONSHIPS

Q2\_1=EASEOFUSE

Q2\_4=EASEOFUSE

Q4\_2=EASEOFUSE

Q5\_5=EASEOFUSE

Q2\_2=ACCESS

Q2\_3=ACCESS

Q3\_7=ACCESS

Q4\_1=ACCESS

Q4\_3=ACCESS

Q3\_2=RELIABLE

Q2\_8=RELIABLE

Q2\_6=RELIABLE

Q3\_5=RELIABLE

Q4\_6=RELIABLE

Q3\_1=SAVETIME

Q2\_5=SAVETIME

Q4\_4=SAVETIME

Q5\_2=SAVETIME

Q4\_5=1\*PRICEPRE

Q3\_8=1\*PRICEPRE

Q6\_1=ADOPTION

Q6\_2=ADOPTION

Q6\_3=ADOPTION

Q7\_1=ROT

Q7\_2=ROT

Q8\_1=ROT

Q9\_1=ROT

Q10\_1=ROT

Q11\_1=ROT

METHOD OF ESTIMATION = MAXIMUM LIKELIHOOD

PATH DIAGRAM

LISREL OUTPUT: SS SC

END OF PROBLEM

“

**Appendix V: Standardized Covariance Matrix for Latent Variables**

	Savetime	Adoption	ROT	EaseofUse	Accessibility	Reliability	Price Prem.
Savetime	1.00						
Adoption	0,10	1.00					
ROT	0,29	0,21	1.00				
EaseofUse	0,72	0,10	0,21	1.00			
Accessibility	0,62	0,12	0,18	0,93	1.00		
Reliability	0,65	0,13	0,19	0,85	0,85	1.00	
Price Prem.	-0,10	-0,39	-0,03	-0,15	-0,21	-0,22	0,97

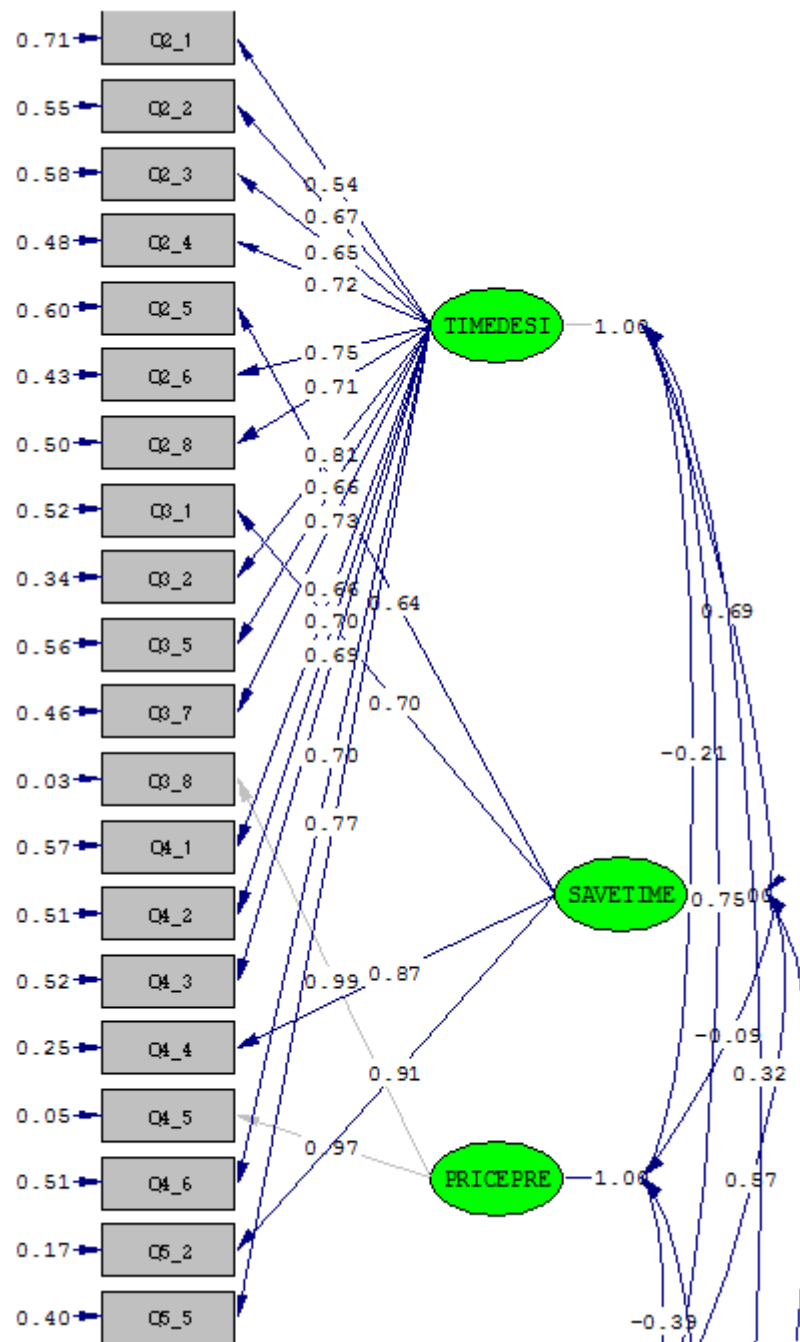
**Appendix VI: Squared Correlation Estimates between Latent Variables**

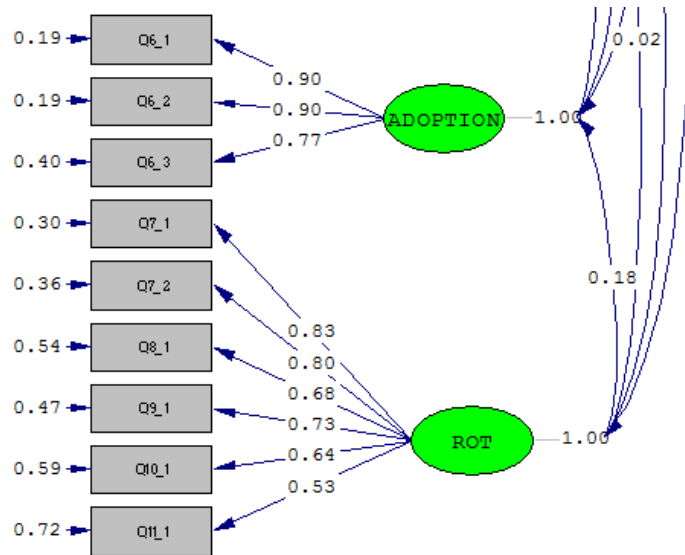
	Savetime	Adoption	ROT	EaseofUse	Accessibility	Reliability	Price Prem.
Savetime	1,00						
Adoption	0,01	1,00					
ROT	0,0841	0,0441	1,00				
EaseofUse	0,5184	0,01	0,0441	1,00			
Accessibility	0,3844	0,0144	0,0324	0,8649	1,00		
Reliability	0,4225	0,0169	0,0361	0,7225	0,7225	1,00	
Price Prem.	0,01	0,1521	0,0009	0,0225	0,0441	0,0484	0,9409

**Appendix VII: Discriminant Validity Test Matrix**

	Savetime	Adoption	ROT	EaseofUse	Accessibility	Reliability	Price Prem.
Savetime	-0,3823						
Adoption	0,6077	-0,2624					
ROT	0,5336	0,6935	-0,4948				
EaseofUse	0,0993	0,7276	0,4611	-0,4846			
Accessibility	0,2333	0,7232	0,4728	-0,3493	-0,4887		
Reliability	0,1952	0,7207	0,4691	-0,2071	-0,2112	-0,4226	
Price Prem.	0,6077	0,5855	0,5043	0,4929	0,4672	0,5290	0,0196

**Appendix VIII: Improved Measurement Model**



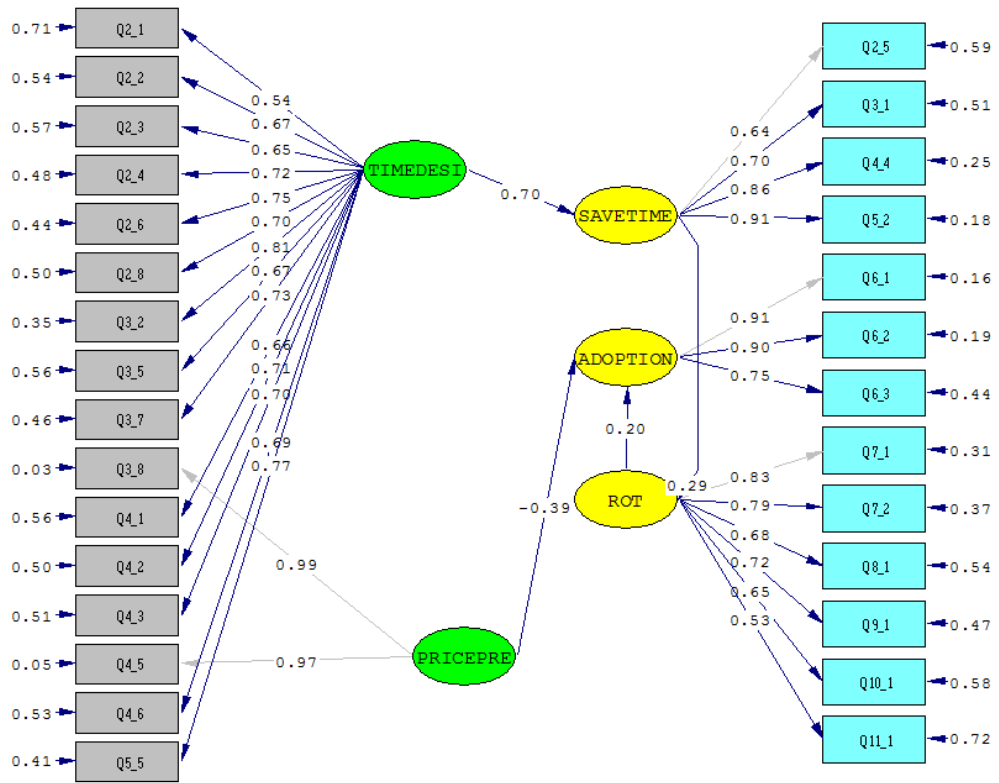


Chi-Square=650.89, df=368, P-value=0.00000, RMSEA=0.050

Construct	Item	Standardized Loading (w/ change vs previous measurement model)	t-value (w/ change)
Time Design	Q2_1	0,54 (-0.03)	10,09 (-0.98)
	Q2_4	0,74 (-0.02)	16,78 (-0.40)
	Q4_2	0,70 (-0.02)	13,05 (+1.34)
	Q5_5	0,77 (-0.05)	22,24 (-1.10)
	Q2_2	0,67 (-0.02)	15,24 (-0.03)
	Q2_3	0,65 (-0.05)	12,30 (-0.94)
	Q3_7	0,79 (-0.06)	16,83 (+9.96)
	Q4_1	0,66 (-0.03)	13,69 (+17.55)
	Q4_3	0,69 (-0.01)	14,37 (+2.56)
	Q2_6	0,75 (-0.06)	18,13 (+8.96)
	Q2_8	0,71 (-0.05)	10,72 (-1.49)
	Q3_2	0,81 (-0.02)	24,89 (+13.26)
	Q3_5	0,66 (-0.02)	10,38 (+4.21)
	Q4_6	0,70 (-0.02)	13,43 (+16.77)
Time Saving	Q2_5	0,64	12,10 (-3.14)
	Q3_1	0,70 (+0.01)	14,99 (-2.34)
	Q4_4	0,87	26,11 (+10.80)
	Q5_2	0,91	31,18 (+22.49)
RoT	Q7_1	0,83 (-0.01)	20,50 (+4.10)
	Q7_2	0,80	9,90 (+1.74)
	Q8_1	0,68	11,98 (+6.47)
	Q9_1	0,73	16,31 (+11.88)
	Q10_1	0,64	11,96 (+7.75)
	Q11_1	0,53	9,44 (+6.58)
Adoption	Q6_1	0,90	30,31 (+18.31)
	Q6_2	0,90	33,04 (+12.64)
	Q6_3	0,77	14,11 (-9.01)
Price	Q3_8	0,99	Na

Premium			
	Q4_5	0,97	Na

**Appendix IX: Structural Equation Model**



Chi-Square=703.44, df=373, P-value=0.00000, RMSEA=0.053

**Appendix X: SEM Syntax**

```

MASTER
Observed Variables
Q2_1 Q2_2 Q2_3 Q2_4 Q2_5 Q2_6 Q2_8 Q3_1 Q3_2 Q3_5 Q3_7 Q3_8
Q4_1 Q4_2 Q4_3 Q4_4 Q4_5 Q4_6 Q5_2 Q5_5 Q6_1 Q6_2 Q6_3 Q7_1
Q7_2 Q8_1 Q9_1 Q10_1 Q11_1
CORRELATION MATRIX FROM FILE 25.COR.PCM
ASYMPTOTIC COVARIANCE MATRIX FROM FILE 25.ASYM.ACM
Sample Size=311
LATENT VARIABLES TIMEDESIGN SAVETIME PRICEPRE ADOPTION ROT
RELATIONSHIPS
Q2_1=TIMEDESIGN
Q2_4=TIMEDESIGN
Q4_2=TIMEDESIGN
Q5_5=TIMEDESIGN
Q2_2=TIMEDESIGN
Q2_3=TIMEDESIGN
Q3_7=TIMEDESIGN
    
```

```
Q4_1=TIMEDESIGN
Q4_3=TIMEDESIGN
Q3_2=TIMEDESIGN
Q2_8=TIMEDESIGN
Q2_6=TIMEDESIGN
Q3_5=TIMEDESIGN
Q4_6=TIMEDESIGN
Q3_1=SAVETIME
Q2_5=SAVETIME
Q4_4=SAVETIME
Q5_2=SAVETIME
Q4_5=1*PRICEPRE
Q3_8=1*PRICEPRE
Q6_1=ADOPTION
Q6_2=ADOPTION
Q6_3=ADOPTION
Q7_1=ROT
Q7_2=ROT
Q8_1=ROT
Q9_1=ROT
Q10_1=ROT
Q11_1=ROT
SAVETIME=TIMEDESIGN
ADOPTION=ROT PRICEPRE
ROT=SAVETIME
METHOD OF ESTIMATION = MAXIMUM LIKELIHOOD
PATH DIAGRAM
LISREL OUTPUT: SS SC
END OF PROBLEM

“
```



**Appendix XI: Full ANOVA Test Statistics**

**Descriptives**

		N	Mean	Std. Deviation	Std. Error
Price	Young, Free and Simple	168	4.7544	1.52563	.11667
	Chaos in my Life	83	4.4940	1.38259	.15176
	Got my Life Back	60	4.9500	1.39521	.18012
	Total	311	4.7229	1.46841	.08287
RoT	Young, Free and Simple	168	5.0058	.87371	.06681
	Chaos in my Life	83	5.1124	.72513	.07959
	Got my Life Back	60	5.0306	.73164	.09445
	Total	311	5.0387	.80951	.04568

**ANOVA**

		Sum of Squares	df	Mean Square	F	Sig.
Price	Between Groups	7.614	2	3.807	1.774	.171
	Within Groups	667.281	311	2.146		
	Total	674.895	313			
RoT	Between Groups	.640	2	.320	.487	.615
	Within Groups	204.472	311	.657		
	Total	205.112	313			

## 12. References

- Andaleeb, SS. A.K. Basu. 1994. Technical Complexity and Consumer Knowledge as Moderators of Service Quality Evaluation in the Automotive Service Industry. *Journal of Retailing*, 70 (Winter) p. 367-81.
- Anderson, Eugene W. and Steven M. Shugan. 1991. Repositioning for Changing Preferences: The Case of Beef Versus Poultry. *Journal of Consumer Research*, 18 (September), 219-32.
- Andreassen, T.W., L. L. Olsen and G. Calabretta. 2012A. Prosper through Innovation: Trend Spotting Gets You There. BI Norwegian Business School, Working paper.
- Andreassen, T.W., L. L. Olsen and G. Calabretta. 2012B. Return On Time: The Construct and its Implications for Innovations. BI Norwegian Business School, Working paper.
- Bakos, J. Y. 1997. Reducing Buyer Search Costs: Implications for Electronic Marketplaces. *Management Science*, 43 (12), 1676-92.
- Beach, L.R. and Mitchell, T.R. 1978. A Contingency Model for the Selection of Decision Strategies. *Academy of Management Review*, (3:3), July, pp. 439-449.
- Becker, G.S. 1965. A Theory of the Allocation of Time. *The Economic Journal*, Vol. 75, No. 299. (September), pp. 493-517
- Berry, L.L., K. Seiders, D. Grewal. 2002. Understanding Service Convenience. *The Journal of Marketing*, Vol 66, No 3 (July) page: 1-17.
- Best, K. 2006. *Design Management: Managing Design Strategy, Process and Implementation*. Lausanne, Switzerland: Ava Books.
- Beverland, M.B., F.J. Farrelly. 2001. Designers and marketers: towards a shared understanding. *The Design Management Review*, Vol 22. (3): 62-70.
- Bilgram, V., A. Brem, K-I. Voigt. 2008. User-centric Innovations in new product Development – Systematic Identification of Lead Users Harnessing Interactive and Collaborative Online-Tools. *International Journal of Innovation Management*, Vol 12, nr. 3, p: 419-458.

Bitner, M.J., S.W. Brown, M.L. Meuter. 2000. Technology Infusion in Service Encounters. *Journal of the Academy of Marketing Science*. 28 (1), 138-149.

Boston Consulting Group. 2010. Innovation 2010: a return to prominence – and the emergence of a new world order. Accessed at 15.02.2012. Available online at:

Brown, Lew G. 1990. Convenience in Services Marketing. *Journal of Services Marketing*, 4 (Winter), 53-59.

Carstensen, Laura L. 2006. The Influence of a Sense of Time on Human Development. *Science*, June 30, 312: 1913-1015.

Chayutsahakij, P., S. Poggenpohl. 2002. User-centered Innovation: The interplay between User-research and Design Innovation. *Proceedings of the European Academy of Management 2<sup>nd</sup> Annual Conference on Innovative Research in Management EURAM*. Stockholm, Sweden, 2012.

Christensen, Cook and Hall. 2005. Marketing malpractice: The cause and the cure, *Harvard Business Review*, December 2005

Cooper, R.G. 1975. Why new industrial products fail. *Industrial marketing management*. Vol 4. P 315-326

Cooper, R.G. 1979. The dimensions of industrial new product success and failure. *The Journal of Marketing*. Vol 43. (3) p. 93-103

Crawford, C.M. 1977. Marketing Research and New Product Failure Rate. *The Journal of Marketing*, Vol 41, nr. 2, p: 51-61.

Dabholkar, P.A. 1996. Consumer evaluations of new technology-based self-service options: An investigation of alternative models of service quality, *International Journal of Research in Marketing*. Vol 13. P: 29-51.

Davis, F. D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quart*, 13(3) 319–339.

De Mozota, B.B. 2003. Design and Competitive Edge: a model for design management excellence in European SMEs. *Design Management Journal*. Vol 2. pp: 88-103.

- De Mozota, B.B. 2006. The Four Powers of Design: A Value Model in Design Management. *Design Management Review*, Vol 17. Nr. 2.
- Design Council. 2007. Eleven Lessons: Managing Design in Eleven Global Brands – A Study of the Design Process. Accessed on 04.01.2012. Available at [http://www.designcouncil.org.uk/Documents/Documents/Publications/Eleven%20Lessons/ElevenLessons\\_Design\\_Council.pdf](http://www.designcouncil.org.uk/Documents/Documents/Publications/Eleven%20Lessons/ElevenLessons_Design_Council.pdf)
- Durrande-Moreau, A and J.C. Usunier. 1999. Time Styles and the Waiting Experience: An Exploratory Study. *Journal of Service Research*, Volume 2, No. 2(November), 173-186.
- ECON. 2005. *Innovasjon I tjenester – utarbeidet for nærings og handels departementet*. ECON-rapport nr. 2005-080.
- Erhvervsstyrelsen. 2008. Brugerdrevet innovation, Årsrapport 2008, beretning. Accessed on 12.02.2012. Available online at: [http://www.ebst.dk/file/40780/bdi\\_beretning.pdf](http://www.ebst.dk/file/40780/bdi_beretning.pdf)
- European Commission. 2009. COMMISSION STAFFWORKING PAPER - *Design as a driver of user-centered innovation*, Brussels, 501 Final.
- Farquhar, J. D. and J. Rowley. 2009. Convenience: a services perspective. *Marketing Theory*, Volume 9(4): 425–438.
- Feldman, L. P. and J. Hornik. 1981. The Use of Time: An Integrated Conceptual Model. *Journal of Consumer Research*, 1 (March), 407-19.
- Forbes. 2012. *Apple Still The World's Most Valuable Brand*, Accessed on 15.07.2012, Available at: <http://www.forbes.com/sites/timworstall/2012/05/22/apple-still-the-worlds-most-valuable-brand> . Accessed on 19.07.2012
- Garretson, R. C. and F. F. Mauser. 1963. The Future Challenges Marketing, *Harvard Business Review*, 41 (November/December), 168-78, 186-88.
- Gemser, G. and M.A.A.M Leenders. 2001. How Integrating Industrial Design in the Product Development Process Impacts on Company Performance. *Journal of Product Innovation Management*, (18): 28–38.

Gemser, G., M. Candi, J. Van der Ende. 2011. How Design can Improve Firm Performance. *Design Management Review*, Vol 22 Issue 2 pp: 72-77.

Giske, T. 2012. Quote from opening speech at “Designdagen 2012” (The day of design 2012), organized by the Norwegian Design Council.

Gloppen, J. 2009A. Perspectives on Design Leadership and Design Thinking and How They Relate to European Service Industries. *Design Management Journal*. Vol 4, (1): 33-47

Gloppen, J. 2009B. Service Design Leadership. *First Nordic Conference on Service Design and Service Innovation*. Oslo: 24<sup>th</sup>-26<sup>th</sup> November.

Grant, R.M. 2009. *Contemporary Strategic Analysis 7<sup>th</sup> edition*. West Sussex, United Kingdom: John Wiley & Sons Ltd.

Grönroos, C. 2006. On Defining Marketing: Finding a New Roadmap for Marketing. *Marketing Theory* 6(4): 395–417 cited in Farquhar and Rowley, 2009.

Gupta, S., D.R. Lehmann. 2003. Customer as Assets. *Journal of Interactive Marketing*. Winter 2003; 17: 1 p 9-24.

Hair, J.F., W.C. Black, B.J. Babin, and R.E. Anderson. 2010. *Multivariate Data Analysis, A global Perspective, 7<sup>th</sup> Edition*. Pearson Education Inc. New Jersey, USA.

Heapy, J. 2011. Creating value beyond the product through services. *The Design Management Review*, Vol 22. (4): 32-39.

Hertenstein, J.H., M.B. Platt, and R.W. Veryzer. 2005. The Impact of Industrial Design Effectiveness on Corporate Financial Performance. *Journal of Product Innovation Management*, (22):3–21.

Heskett, J.L., T.O. Jones, G.W. Loveman, W.E. Sasser, and L.A. Schlesinger. 1994. Putting the Service Profit Chain to work. *Harvard Business Review*, March-April. Pp 164-174.

Holbrook, Morris B. and Donald R. Lehmann. 1981. Allocating Discretionary Time: Complementarity Among Activities. *Journal of Consumer Research*, 1 (March), 395-406.

Holt, K. 1988. The Role of the User in Product Innovation. *Technovation*. 7. Pp: 249-258.

Hornik, Jacob. 1984. Subjective vs. Objective Time Measures: A Note on the Perception of Time in Consumer Behavior. *Journal of Consumer Research*, Volume 11 (June), 615-18.

<http://www.bcg.com/documents/file42620.pdf>

Jacoby, Jacob, George J. Szybillo, and Carol K. Berning. 1976. Time and Consumer Behavior: An Interdisciplinary Overview. *Journal of Consumer Research*, 2 (March), 320-39.

Jacoby, Jacob. 1974. Consumer Reaction to Information Displays: Packaging and Advertising. *American Marketing Association*, 101-18.

Jørgensen, S.H. (2003): User-Centred Design, rapport fra Konsortiet for brugercentret design, København. Accessed on 03.02.2012. ([http://www.ebst.dk/file/1622/brugercentreret\\_design.pdf](http://www.ebst.dk/file/1622/brugercentreret_design.pdf))

Julier, G., L. Moor. 2009. The turn to service design. *Design and Creativity: Policy, Management and Practice*. Oxford: Berg, pp: 157-173.

Juster, F. Thomas and F. P. Stafford. 1991. The Allocation of Time: Empirical Findings, Behavioral Models, and Problems of Measurement. *Journal of Economic Literature*, Vol. 29, No. 2 (June), pp. 471-522

Karat, J. 1996. User Centered Design: Quality or Quackery?. *Interactions*, Vol.3, No.4, pp.19-20.

Keaveney, S.M. 1995. Customer Switching Behavior in Service Industries: An Exploratory Study. *Journal of Marketing*. 59 (April) p. 71-82.

Keller, K.L., B. Sternthal, A. Tybout. 2002. Three questions you need to ask about your brand. *Harvard Business Review*. 80 (9 September), p. 80-86

Kelley, E.J. 1958. The Importance of Convenience in Consumer Purchasing. *Journal of Marketing*, 23(1): 32-8.

Kelley, T. 2001. The art of innovation: lessons in creativity from IDEO, Americas leading design firm, Currency/Doubleday, New York.

Lilien, G. L., P. Kotler, and K. S. Moorthy. 1992. *Marketing Models*. Englewood Cliffs, NJ: Prentice Hall. Cited in Xue and Harker (2002)

Linder, S. B. 1970. *The Harried Leisure Class*. New York: Columbia University Press.

Malhotra, N.K. 2010. *Marketing Research, An Applied Orientation, Global Edition, Sixth Edition*. Georgia Institute of Technology. Pearson Education Inc. New Jersey, USA.

McDermott, C. 2007. *Design: The key concepts*. London: Routledge.

Meuter M.L., A.L. Ostrom, R.I. Roundtree, M.J. Bitner. 2000. Self-service technologies: Understand Customer Satisfaction with Technology-Based Service Encounters. *Journal of Marketing*. 64 (July): 50-64

Nichols, D., E. Smolensky, and T. N. Tideman. 1971. Discrimination by Waiting Time in Merit Goods. *American Economic Review*, 61 (June), 312-23.

Norsk Kundebarmeter. 2012. «Kundene elsker Flytoget/ The customers love Flytoget». Accessed on 11.07.2012. Available online at <http://www.kundebarmeter.com/>

Norwegian Design Council. 1998. *Rekord Resultat for Flytoget / Record result for Flytoget*. Accessed on 11.07.2012. Available online at <http://www.norskdesign.no/caser/rekordresultat-for-flytoget-article144-8424.html>

Norwegian Design Council/ Norsk Designråd. 2010. *Designdrevet Innovasjonsprogram/ Design-driven Innovation Programme*. Haugesund Bok og Offset AS. Accessed on 04.01.2012. Available online at: [http://www.norskdesign.no/getfile.php/Filer/Artikler/Om%20oss/DIP\\_2010\\_web.pdf](http://www.norskdesign.no/getfile.php/Filer/Artikler/Om%20oss/DIP_2010_web.pdf)

Norwegian Ministry of Trade and Industry. 2008. *White Paper nr. 7 (2008-2009) "An Innovative and Sustainable Norway"*. Available online at: [http://www.regjeringen.no/pages/2133768/PDFS/STM200820090007000DDDPD\\_FS.pdf](http://www.regjeringen.no/pages/2133768/PDFS/STM200820090007000DDDPD_FS.pdf)

Nussbaum, B. 2004. The Power of Design. *BusinessWeek*. May 17.

- Ofek, E., and L. Wathieu. 2010. Are You Ignoring Trends That Could Shake Up Your Business?. *Harvard Business Review* 88, no. 7/8: 124-131.
- Parasuraman, A., V.A. Zeithaml, and L.L. Berry. 1985. A conceptual model of service quality and its implications for future research. *Journal of Marketing*. Vol 49 (4):41-50
- Parasuraman, A., V.A. Zeithaml, L.L. Berry. 1988. SERVQUAL: A Multiitem Scale for Measuring Consumer Perceptions of Service Quality. *Journal of Retailing*. Vol 64. (1): 12-40.
- Porter, M. 1985. *Competitive Advantage – Creating and Sustaining Superior Performance*, FreePress, New York, NY.
- Rao, Akshay R. and M. E. Bergen. 1992. Price Premium Variations as a Consequence of Buyers' Lack of Information. *Journal of Consumer Research*, Vol. 19, No. 3 (December), pp. 412-423.
- Roy, R., C.K.H. Reidel. 1997. Design and Innovation in successful product competition. *Technovation*, 17 (10), pp: 537-548.
- Rust, R.T., K.N. Lemon, V.A. Zeithaml. 2004. Return on Marketing: Using customer equity to focus marketing strategy. *Journal of Marketing*. Vol. 68 (January 2004), p 109-127
- Saco, R.M., A.P. Goncalves. 2008. Service Design: An Appraisal. *Design Management Review*. Vol. 19 (1)
- Sangiorgi, Daniela. 2009. *Building up a framework for service design research*. 8<sup>th</sup> European Academy of Design Conference – 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> of April 2009, The Robert Gordon University, Aberdeen, Scotland. Accessed on 07.08.2012. Available at: <http://ead09.rgu.ac.uk/Papers/037.pdf>
- Schary, P. B. 1971. Consumption and the Problem of Time. *Journal of Marketing*, 35 (April), 50-55.
- Schneider, J., J. Hall. 2011. Why Most Product Launches Fail, *Harvard Business Review*, 89, no. 4 p. 21-23



Seiders, K., G.B. Voss, A.L. Godfrey, D. Grewal. 2007. SERVCON: development and validation of a multidimensional service convenience scale. *Journal of the Academic Marketing Science*. 35:144-156

Serrat, O. 2010. Design Thinking. *Knowledge Solutions*. March 2010: 78.

Shapiro, Carl. 1983. Premium for high-quality products as returns to reputation, *The Quarterly Journal of Economics*, 98 November, 659-679.

Shostack G. Lynn. 1984. Designing services that deliver. *Harvard Business Review*; Jan/Feb1984, Vol. 62 Issue 1, pp. 133-139

Sir George Cox. 2005. *Cox Review of Creativity in Business: building on the UK's strengths*. Accessed on 07.01.2012. Available online at: [http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/coxreview\\_index.htm](http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/coxreview_index.htm)

Strahilevitz, Michal and J. G. Myers. 1998. Donations to Charity as Purchase Incentives: How Well They Work May Depend on What You Are Trying to Sell, *Journal of Consumer Research*, Vol. 24 (March), 434-446.

Trendwatching.com. Accessed on 08.01.2012. Available online at <http://trendwatching.com/tips/>

UK design council. 2003. Design plays a vital role in prosperity of the nation. Here are the hard facts. Accessed on 04.01.2012. Available online at: [http://www.designcouncil.org.uk/Documents/Documents/Publications/Design%20in%20Britain%202003-04\\_Design\\_Council.pdf](http://www.designcouncil.org.uk/Documents/Documents/Publications/Design%20in%20Britain%202003-04_Design_Council.pdf)

Ulwick, A.W. 2002. Turn customer input into Innovation. *Harvard Business Review*. Jan;80(1):91-7, 126.

Van der Panne, G., C. Van Beers, A. Kleinknecht. 2003. Success and failure of innovation: a literature review. *International journal of Innovation Management*. Vol 7. Nr. 3. p: 1-30

Van Stamm, Betina. 2008. *Managing Innovation, Design and Creativity 2<sup>nd</sup> edition*. Glasgow: John Wiley & Sons Ltd.

Vargo, S. and Lusch, R. 2008. Service-dominant Logic: Continuing the Evolution, *Journal of the Academy of Marketing Science* 36: 1–10.

- Vargo, S.L., R.F. Lusch. 2004A. Evolving to a New Dominant Logic or Marketing. *Journal of Marketing*. Vol. 68. (January 2004): 1-17.
- Vargo, S.L., R.F. Lusch. 2004B. The Four Service Marketing Myths: Remnants of a goods-Based, Manufacturing Model. *Journal of Service Research*. 6:324
- Verganti, Roberto. 2008. Design, Meanings and Radical Innovations: A Metamodel and a Research Agenda. *Journal of Product Innovation Management*. 25. P. 436-456.
- Veryzer, R. W. 1998. Discontinuous innovations and the new product development process. *Journal of Product Innovation Management*. (15): p. 304-321.
- Von Hippel, E. 2004. Democratizing Innovation: The evolving phenomenon of user innovation, in: Kahin, B., Foray, D. (Eds.), *Advancing Knowledge and the Knowledge Economy*. The MIT Press, Boston, pp. 238-255.
- Vredenburg, Karel, Isensee, Scott and Righi, Carol. 2002. *User-Centered Design: An Integrated Approach*. Upper Saddle River, NJ: Prentice Hall PTR
- West, Michael A. 1997. *Developing creativity in organizations, UK: BPS Books*.
- Wetter-Edman, K. 2010. Comparing design thinking with service-dominant logic. *Research Design Journal*. 2 (2): 39-45.
- Wetter-Edman, K. 2011. *Service Design – a conceptualization of an emerging practice*, Thesis for degree of Licentiate of Philosophy in Design (with specialization in Design Management), *HDK-School of Design and Craft*, University of Gothenburg.
- Wilson, A., V.A. Zeithaml, M.J. Bitner, D.D. Gremler. 2008. *Services Marketing: Integrating Customer Focus Across the Firm, First European Edition*. Berkshire: McGraw-Hill Education. Page 371-373.
- Xue, Mei and Patrick T. Harker. 2002. Customer Efficiency, Concept and Its Impact on E-Business Management, *Journal of Service Research*, Vol 4 (4), p. 253-267
- Yale, L., and A. Venkatesh. 1986. Toward the construct of convenience in consumer research, *Advances in Consumer Research*, Vol 13, P403-408.

### 13. Preliminary Master Thesis

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**-Preliminary Thesis Report-**

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“Return on Time: Capitalize on customers’  
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## **Abstract**

Business managers today are faced with the challenges of increased competition and a tough economic climate. Managers, who turn to innovation for help and use design-methodology to face these challenges, are better suited to face these challenges. Design is user-oriented in nature, a prerequisite for successful innovations, and designers help translate their user-information into solutions valuable to companies and customers. These user-oriented companies are able to act on current opportunities and trends; one such trend being the increased importance consumers put on their time-allocation. We suggest that helping consumers with their time-management is one of the most powerful selling-propositions companies can make today. This paper explains this consumer trend by looking at how consumers acquire time, and then spend it on maximizing their well-being. Its message to managers is how they can use design as a strategic tool, fulfill current consumer needs, and gain a competitive advantage and higher profitability.

### **Keywords:**

Innovation, design, user-focus, trends, return on time, time management, new product development, competitive advantage.

## Introduction

Today's business climate is recognized by fierce competition and shorter product lifespan. Firms are under increasing pressure to develop new products and services that are both timely and fulfill a consumer need (Schneider and Hall, 2011). Often new products are launched at the wrong time, or without researching customer needs. New product development issues become especially evident in the marketing management view, as providing and commercializing such offerings are core to the discipline. However, the act of innovation can be extremely difficult and costly, especially considering that nine out of ten innovations are not the success its managers had hoped for when they hit the market. Managers have started to understand the need for continuous innovation, but many are still reluctant to accept the risks associated with the process. In order to lower this risk perception, managers seek tools that increase likelihood of innovation success, i.e. innovations that are both launched at the right time and fulfill a relevant consumer need.

## Innovation

The challenge of successful innovation is great, and to overcome this challenge we need to know what innovation actually is. Often innovation and creativity are used interchangeably. Although creativity is fundamental to innovation, the definition lacks a crucial consideration. For the creative outcome to be commercially successful, one has to act on it. The theory is therefore that innovation also concerns implementation. As such, we use the widely accepted definition of innovation equals creativity plus implementation (West 1997, van Stamm 2008). Creativity is the act of coming up with a new idea, while implementation means idea selection, development and commercialization. These are popularly called the four steps of the innovation process. The innovation process output can be a: (Tidd et. al., 2001)

- new product, i.e. a tangible solution a company offers
- new service, i.e. an intangible solution a company offers
- new process, i.e. the ways in which the solutions are created and delivered, e.g. a new business model (how value is extracted from the innovation)

This paper focuses on the innovations targeted at the consumer rather than the internal processes within a company. As such, new process innovations are outside the scope of this paper. The degree of tangibility of the output can vary, and newer research argues that solutions are no longer a product OR a service, but that solutions are something in between, with varying degrees of tangibility (Vargo, Lusch, 2004). Furthermore, current research has shown a recent trend where services are incorporated in products (termed service-enhanced products), or even replace them altogether (Rea et.al. 2011). The degree of tangibility of a solution is a vague and difficult thing to establish. A hammer reflects a high degree of tangibility, whereas Internet banking is very intangible, but where would one place a fast-food service? Adding to the confusion, the more added value one places in a product, the more intangible it gets, e.g. an iPhone is not merely a phone, but also offers flexibility, status etc. One could perhaps say that the iPhone is a 50/50 case of tangibility, where the total customer experience blurs the lines between it being a product or a service. This is certainly considerations we will need to explore further. Whether a company creates a new product or service depends on the goal of the innovation, and the competences of the company. Creating a new product require a very different approach compared to creating a new service, and the company needs to consider what tools are necessary for the innovation to succeed delivering value to its customers. Adding value greater than before requires creativity, and great creativity was certainly essential for iPhone's commercial success.

However, creativity alone is never enough for an innovation to be successful, as an innovation needs to be implemented and successfully brought to the market. Examples of great creativity but failed implementation are many, e.g. the x-ray scanner invented by EMI, but made a commercial success by General Electric. The challenge is to ensure that both creativity and implementation are relevant for the user, and managers need appropriate tools and processes to ensure this relevance.

## Design

One such tool is the use of design, or *design thinking*. It has become more popular in recent years as an innovation tool and capability. The combination

of design and innovation has received increased academic attention that explores design's contribution to new product development and business performance (such as Gemser and Leenders, 2001; Hertenstein, Platt, and Veryzer, 2005). Also, businesses are increasingly investing in design and involving design in their innovation processes (Nussbaum, 2004). In addition, the success of major design firm IDEO (Kelley, 2001), and the success of major brands such as P&G and Apple using design thinking in new product development has set the spotlight on design as an innovation tool. The authors brand this tool as *design-focused innovation*.

Design in this context is not an end goal, but rather a process, an action, or a verb, not a noun (Serrat 2010). Although aesthetics are a crucial part of design, design goes deeper than the everyday meaning of the word as it includes other factors such as: user-friendliness, durability, functionality, physical size and weight, branding, technology, environmental friendliness, and using non-toxic materials. Many of these benefits apply for both tangible and intangible solutions. As the focus of this paper lies on end-users, the benefits of design for company processes are of less importance to our research, but an important motivation for companies to adopt design-methodology nonetheless. These include reduced production and logistic costs, or economies of scale and scope.

IDEO's former chairman, now chairman of the UK Design Council, Sir George Cox, argues: "Design is what links creativity and innovation. It shapes ideas to become practical and attractive propositions for users or customers. *Design may be described as creativity deployed to a specific end* (The Cox Review, 2005)". In other words, design is a tool that helps transform creativity into successful innovation. Verganti (2008) argues: "*design is making sense of things*" and "*design is what gives things meaning*". This illustrates that design goes beyond merely the physical aspects of a product, but also includes its emotional and symbolic value. Vredenburg, Isensee and Righi (2002) agree: "*design refers to the creation of the total customer experience*".

Innovations are often market-centric in nature, where market research is central for success. Such current-market focus may make it difficult to see beyond what a company believes to be established truths, and thus limit a company's ability to be innovative (Veryzer, 1998). Some companies have



therefore succeeded by predicting what the consumers need rather than researching them, company's such as Apple or Alessi (Verganti 2008). The success these companies have accomplished is astonishing, almost utopian, and may be out of reach for the average manager. A more methodic approach that is more accepted, researched and realistic, is the study of users to identify needs.

### User-focus

A sometimes less obvious attribute of design is that it is human-centered. Design-focused innovations are designed by humans for humans. This focus on users inspires great ideas and ensures that solutions meet real needs, whether the users are fully aware of them or not. Design-focused innovation focuses on user-research, rather than market research. Because traditional market research builds upon opinions of current experiences and current technologies, it is generally unhelpful for design, which is more exploratory in nature. Instead, design borrows user-research methods from the social sciences such as sociology, anthropology, and psychology. This helps design-thinkers to understand, credibly explain and perhaps predict human behavior for the creative phase of the innovation process (Karat, 1997; Chayutshakij, Poggenpohl, 2002). Design-thinkers are wired through their mindset, methods and processes to ensure that the people who will ultimately become the idea's users and customers are always central to how it is developed. This is done through different methods including, but not limited to, user-observation, in-depth interviewing, extensive prototyping, role-playing, blueprinting, etc. The focus is always on the user. As the user does not always realize what solutions will fulfill their needs, or even what needs they have, these design-methods helps reduce an innovation's uncertainty level. Designers are also able to visualize and communicate their solutions through their methods such as prototyping, making it easier for other cross-disciplinary participants to understand and improve the solutions. Cross-disciplinary collaboration is an essential part of the design method, enabling designers and non-designers (e.g. engineering, marketing, manufacturing etc.) to contribute in the process. This allows the innovation to take into account the brand promise and positioning, as well as technological opportunities and limitations. In addition, more cross-discipline participants

are involved in decision making, giving them a sense of ownership, which simplifies the implementation later. Combining these disciplines competence with designers' own expertise and user focus, the innovation has an increased chance of reaching its commercial goal.

Although innovations require and sometimes develop new technologies, innovations are often a combination of what the customer wants and what the technology allows. There is an ever-accelerating rate of new technological development, and originating technological development in user-information, is helpful for it to be accepted by consumers. New product development today is often driven by new technological solutions discovered in a lab, searching for a usage. User-focused innovation takes the complete different approach. It asks "what incredible benefits can we give to the customer – not: what technologies do we have, and then how we are going to market that?" Vredenburg, Isensee and Righi (2002) compare user-centered innovations with a more traditional product-centered (technology-centered) approach, and conclude that user-centered innovation is more: user-driven, solution focused, competitive, dependent on multidisciplinary team work, and focused on both current and future customers, among other things. This illustrates benefits for company's involved with user-centered innovations.

### Definition

Based on the discussion above, the authors adopt the following definition of design: "*Design is the conscious decision-making process by which information is transformed into an outcome, be it tangible or intangible*" (von Stamm, 2008). The term **conscious decision-making** means design-competence is used as a strategic managerial tool, **process** means that design-thinking is included throughout the innovation process, **information** means that design is based on user-focus, and the **outcome** is the designed solution divided into different degrees of tangibility, i.e. a product or a service. We brand this user-focused design-driven approach to innovation: *User-centered design*, adopted from Vredenburg, Isensee and Righi (2002). In simple terms, it concerns innovating with user-focus while using design-methodology.

As previously explained, innovations have varying degrees of tangibility. What we have branded as very intangible innovations are service innovations. Service design is a term that has emerged recently, which means

to design holistic and great customer experiences in services. In addition, it considers design in relation the employees, as they are the contact point and service provider for customers. Birgit Mager, a German service design pioneer, defines service design as *using design-methodology to create user-oriented intangible solutions that are useful, usable and desirable* (Saco and Goncalves, 2008). The similarities with our previous definition of design are many, but what separates service design is the attention to employees, and the perish ability of the value delivery. We will explore these differences in depth later.

## Return on Time

As previously discussed, a user-centered approach has the potential to shape the future success of a business. It is essential for managers to understand that consumers' present and future needs depend on their perception of how the world around them is evolving. Technological, economic, environmental, social, or political trends shape what consumers expect from products and services (Trendwatching.com). Stressing the importance of these influences should motivate businesses to bring more insight from user-focused research into their innovation process.

We adopt the definition of consumer trends introduced by handful of professionals in the business field, from Trendwatching.com, who looked at consumer trends as novel manifestations of events, such as changes in societal norms and values, technology breakthroughs, and rise in prosperity, which unlocked an existing and hardly ever changing consumer need, desire, want or value.

Moreover, Ofek and Wathieu (2010) claim that, when researching consumer trends, it is essential to identify relevant tendencies that have the potential to shift customer demands. In doing so, there are a few dimensions to consider: how complex these changes are, in how many areas of a consumer's life are they present, how do they influence people's priorities, perceptions of their role in society, and expectations, how many market segments and consumers do they involve and how long will they dominate the market for.

Depending on the answers to these questions, marketers and business executives can decide if a consumer trend is worth being concerned with

during the innovation process and new product development. Also, trends' relevance can indicate the right timing for bringing an innovation to the market.

One trend that was found relevant in the view of the previously mentioned dimensions is related to time scarcity concerns. As described by researchers, "time is a scarce and limited resource" (Jacoby, Szybillo, and Berning 1976), which cannot be acquired or stored (Feldman and Hornik 1981).

Consumers' interest in conserving time is not new, since it has constituted the motivation for developing convenience goods and services, for promoting time-oriented benefits and for consumers purchase behavior in many situations (Jacoby, Szybillo, and Berning 1976).

With more freedom and availability than ever before, consumers want to know, see and try a bit of everything. The rush to keep up with all the information flow has determined changes in consumers preferences and behavior and have turned their wellbeing into frenetic lifestyles, where their time allocation, as an outcome of demographic, socioeconomic, and psychographic determinants, has become essential (Holbrook and Lehmann 1981).

The term "lifestyle" describes consumers' decisions regarding goods and services purchase and consumption. Here, the time issue comes in again, since these decisions are highly dependent on the way consumers allocate their time among their consumption habits. In order to understand consumption decisions, it is critical for marketers to understand consumers' perception of use of time, since in the evaluation of a product or service, consumers consider both how much time they spent to purchase it and to consume it (Feldman and Hornik 1981).

To follow, Anderson and Shugan (1991) claim that consumers can either spend time, as a cost, or invest time in consumption. More often, consumers regard it as a cost, since they have to spend time while going shopping, searching for information about and choosing among the various products or services, waiting in a queue and going back home.

On the other hand, consumers make their purchase choices for different reasons: they go to a restaurant and buy their services and products. They buy food to fulfill their hunger needs, drinks for their thirst, but also socialize

for entertainment and so on. Thus, the time spent there was clearly an investment since they have fulfilled their needs. As investors wait for a return on their investment, consumers' self-fulfilling experiences can be viewed as their Return on Time invested in the specific activities.

So in the context of a hectic environment, where there are so many opportunities and not enough time to take advantage of them, businesses must find a way to respond to consumers' worries about time scarcity, turning time more often into an investment.

### Definition

Return on Time, as a consumer trend, comprises consumers' urgency for finding optimal benefits from their time allocation. Procuring as much free time as possible between and during activities and spending it on self-fulfilling experiences can enhance Return on Time. That is, "finding the optimal balance between the quality and quantity of experiences". While quality of an experience refers to benefits in terms of self-fulfillment, efficiency and pleasure, quantity is about finding the best number of self-fulfilling experiences per unit of time Andreassen, Calabretta and Olsen (2012A).

In order to better understand what ROT is, we will use the definition provided in the working paper of Andreassen, Calabretta and Olsen (2012B), where ROT is looked at as "an individual's goal oriented behavior targeted at acquiring and spending time over a set of chosen activities with the purpose of increasing subjective well-being".

As Garretson and Mauser discovered back in 1963, time value is continuously increasing for consumers, mainly when financial resources and the limit in products and services range are no longer a main concern. Subsequently, Schary (1971) concluded that, if time is such an important matter in consumption, then marketers should develop products including the perspective of time value that consumers associate with the product use. Therefore, offering products and services that can either save or better allocate time, that is, increasing RoT for busy consumers, represents a value-added proposition.

Taking into consideration the optimization of RoT during the innovation process can present benefits of the new products/services that customers are willing to pay for. Such willingness-to-pay is a prerequisite for the probability of adoption of the innovation. Considering the value time has in consumers' perception, they are likely to adopt an innovation that is designed to give consumers an optimized RoT. Based on Andreassen, Calabretta and Olsen (2012B), the optimization of RoT can be looked at through two dimensions, namely time acquisition and time spending. Acquiring time is characterized by the purchase of goods and services whose consumption presents a utilitarian drive, consumers being oriented towards practical, functional and goal-oriented benefits. Likewise, time spending can be described to occur due to hedonistic consumption expectations for fun, fantasy and sensual pleasure (Strahilevitz and Myers, 1998). The dimensions embodying ROT will be further described:

- **Time acquisition**, which can be divided between:

- *Time buying*: products or services that replace human effort. In accordance with Berry (1979), a consumer concerned with time scarcity and how a product/service can help him gain more free time, is more prone to purchase goods and services that will substitute for the time consumer dedicates to certain activities, such as doing laundry, making coffee and so on.

- *Time saving*: Mobilize and reorganize own resources, aiming to free up as much time as possible. For example, one can ask for babysitting help from grandparents. As Feldman and Hornik (1981) see it, time saving is about achieving greater efficiency through time reallocation between activities. In addition to efficiency, Andreassen, Calabretta and Olsen (2012B) propose that consumers can also save time through prioritizing (Doing important activities first; e.g. Google calendar allows you to plan your activities) and multitasking (Performing two tasks at the same time; Learning a foreign language from audio book while driving).

- **Time spending**: Better utilization of the time saved, with the purpose of achieving higher well-being. As Jacoby (1974) mentioned, "consumers seek to reduce time spent for mandated activities (such as routine supermarket shopping chores)" in order to have more free time for self-fulfilling, pleasurable experiences. People make subjective evaluations of the activities

improving their well-being, since they have different needs. Andreassen, Calabretta and Olsen (2012B) suggest four types of trade-offs that influence consumers' well-being through time spending: content trade-off (leisure vs. work activities); sociological trade-off (social vs. solitary activities); psychological trade-off (high cognitive vs. low cognitive activities); novelty trade-off (innovative vs. routine activities).

### Segmentation

In order to maximize the benefit of ROT for innovations, it has to be considered that not all consumers perceive ROT the same. People allocate their time differently, depending on their different needs, wants, everyday activities and preoccupations. For example, it is clear that teenagers and retired individuals have different perspectives about life and are interested in different products and services, thus adopting different innovations. This is why it is more efficient to look at how ROT manifests itself for different segments of consumers.

Andreassen, Calabretta and Olsen (2012A) have proposed a segmentation relying on family lifecycle, such as having children living at home or not, aiming to better understand consumers' needs at different points in their lives and thus bringing a better insight into the innovation process. Hence, businesses will be better off being informed about these differences, since they will have knowledge about how to position and whom to offer their innovations. The authors discuss about three different segments: "Young, free and simple", "Chaos in my life" and "Got my life back".

"Young, free and simple" consumers focus on time spending, attempting to maximize the quantity of experiences they live, per unit of time. They want to do as many activities as possible, to experience everything there is, to take advantage of all the new opportunities on the market. They look for 'goal oriented activities targeted at spending time socially'.

The "Chaos in my life" segment includes individuals at a stage in life when they are overwhelmed with responsibilities such as career, investments (e.g. buying a house, a car), family, children, and friends. They sacrifice most of the time to fulfill their duties, time that used to be reserved for themselves. They focus on time saving, looking for multitasking and efficiency in the products and services they adopt and use. They are very selective in choosing how they

spend their limited time, aspiring for fulfilling their duties and devoting the rest of the time to relaxing, self-fulfilling activities. They are engaged in 'goal oriented activities targeted at freeing up time'.

Consumers belonging to the "Got my life back" segment are people who managed to calm the chaos in their lives, after they reached the top of their careers and their children moved out. They now want to enjoy their lives again, doing everything they couldn't do for a long time. Their activities are targeted at spending time meaningfully.

These three segments may present different levels of willingness of adoption of new products/services, but the adoption process highly depends on how the innovations serve their needs and wants in life. Consequently, ROT benefits brought by innovations will have a certain influence on consumers' decision to adopt the new offerings, based on which stage they are in the family lifecycle.

## **Research Question**

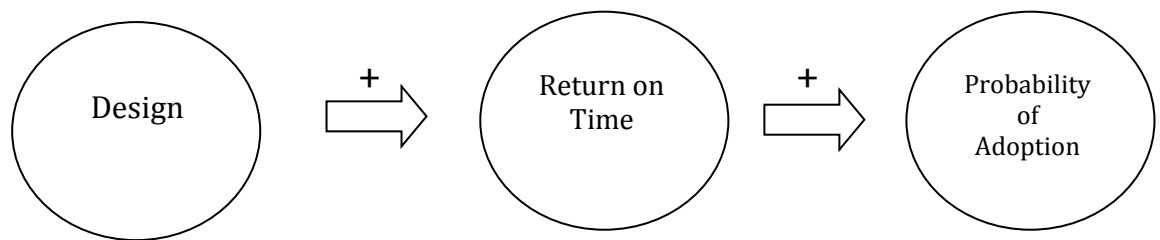
Innovations' success highly depends on the insight provided by user-focused research in the innovation process, as well as on the tools businesses use in this process. Innovations have different degrees of tangibility and will thus be designed differently. These are significant aspects to take into account when aiming for innovations that consumers will be prone to adopt. The adoption probability of an innovation strongly relies on how the output assists the consumers in dealing with their concerns and needs, influenced by socio-economic developments affecting their lifestyles. User-centered research can bring up consumer trends in the attention of businesses and design can help translate user-research into solutions. These trends should represent an important factor in decision-making related to creating timely and user-focused innovations. Consequently, businesses should address consumer trends before going into the innovation process. Hence, they should have knowledge about the solutions' ability to tackle consumers' concern for optimizing Return on Time, before deciding how to use design in a product or service. To follow, the research question this paper will try to answer is:



*How can managers use design competence in the innovation process in order to obtain outputs with different degrees of tangibility that would be able to create Return on Time benefits that consumers are likely to adopt?*

## Conceptual Model

Companies need to innovate in today's business climate. Managers need to be aware of current trends like RoT, and respond to them. RoT reflects a deep consumer-need, and managers need the tools to understand and act. Design is an innovation tool that prospers on user-information, and we therefore believe it to be an appropriate tool to respond to RoT. In other words, we believe that using design will increase the perceived RoT benefits of a solution for consumers. In turn, as the solution appeals to current consumer-needs, the consumer is more likely to adopt the solution. As such, we present our conceptual model:



## Research Methodology

### Qualitative research

As a part of our research methodology, we choose to use qualitative research as a starting point. This is because we do not believe we fully understand the concept of design and the strategic use of design from a pragmatic view. Although our paper is academic in nature, it needs to have its roots in the real world. We therefore need a better understanding of the real world in order to write a relevant and applicable managerial paper. The qualitative findings give us a stronger basis for the quantitative research later, and findings will define future concepts.

We will do semi structured in-depth interviews of designers, or design managers where appropriate, asking them about the use of design in the innovation process. In addition, we will interview users to uncover their

perceptions on RoT, and their perceived benefits from design on their RoT. This is done to triangulate our findings from the literature study, to ensure validity. We will prepare open and general questions, to allow the subject to talk freely on topics we find relevant. As the research is exploratory in nature, it is important we do not bring any assumptions into the interview process. Interviews will last for 1 to 2 hours, depending on information flow.

We will select designers who have worked, or are working, on projects that have some relation to the RoT trend, i.e. consumer solutions that help consumers save or spend time in order to optimize their RoT. These designers will be key informants who possess deep and relevant knowledge on the topic. They are also more likely to direct us to other key informants, creating a snowball effect in recruiting interview subjects. We will interview 5-6 such key informants to ensure rich data, or continue until the marginal result from each interview is very low. The designers will gain access to our research as an incentive to participate. Our goal is to uncover how designers would approach the RoT trend, or how they enhance the RoT benefits of their solutions to meet the trend. The criteria for interview subjects are:

- they are accessible to us (based in Norway, and willing to help us)
- they develop, or have developed, new solutions (innovate)
- the solution gives a RoT benefit
- they operate in the consumer market
- they use some type of design in some part of the innovation process
- the brand or solution is familiar for the majority of the public, which allows us to use the cases as familiar examples in quantitative research later if necessary.

In the writing process, we have identified different cases that look promising. We have been in contact with the Norwegian Design Council (NDC), and they were confident they would be able to help us contact several promising interview candidates through their extensive design network. These companies are presented below, and have either used NDC as consultants, or they have received public recognition from NDC (e.g. award for design excellence). Our current interview candidates who help consumer save and spend time are:

- **Flytoget.** Flytoget is a time-efficient way to get to Norway's main airport, i.e. time is an important added value if not the core of the product, and design was used strategically throughout the entire innovation process.
- **Posten (in stores).** It is a service that is familiar to most, and gives cost-savings for Posten and RoT benefits for consumers. Outsourcing the service can be seen as an innovation, and holistic interior design is considered crucial to communicate the new solution.
- **Fjordland.** They are market leaders in easy-to-prepare food and reduces the time consumers use to prepare full meals. They use design in developing the easy-to-prepare product itself, as well as packaging to communicate RoT benefit.
- **Akademika,** is accessible through BI network. They are developing e-learning solutions (students can learn when most convenient for them, and hopefully learn more efficiently, i.e. saving time), and they use design strategically in the innovation process. Learning can also be seen as a self-fulfilling experience, especially when it is convenient and effective.
- **Øyafestivalen.** It is a music festival in Oslo, who uses communicative design to appeal to their segment.
- **Salma.** High quality and easy-to-prepare salmon that uses packaging design to preserve quality and communicate its quality positioning. Considered a somewhat expensive alternative, that sells consumer "indulging".

We have identified other companies and solutions that may be of interest, depending on further research on their solutions and innovation process, as well as how accessible they are: Altibox (PVR decoder), Kaffebrønneriet, Elixia, Mittanbud.no, Trafikanten.no, BIT, Opera browser, SAS/Norwegian (in regards to self service technologies, and punctuality), Ving/Star Tour, VGnett, Rottefella, visitnorway.com, and perhaps more will be discovered later.

Some of the candidates give both save and spend benefits, such as Altibox, which mean their solutions allow consumer to maximize RoT benefit. These are of particular interest! We have tried to cover different industries with as many different degrees of solution-tangibility as possible. In addition, we suspect the companies have used different disciplines of design across the cases. This gives us a broader view, and findings that are similar across

industries are sure to be relevant. Another approach that may give success is to approach design agencies in Oslo to enquire if they have worked on RoT related projects lately, and can guide us in the direction of relevant interview subjects.

For users we will aim to interview 3-4 subjects in each segment to ensure rich data, or until we experience marginal return from subjects. Subjects will be gathered from our networks, as they are accessible to us. We will be aware of the dangers of interviewing acquaintances where there is a risk they will tell us what they think we want to hear, and not their real opinions. We will therefore also aim to recruit unfamiliar subjects as well. The subjects will need an appropriate incentive to participate, to show our appreciation. These subjects will be acquired through a snowballing effect from our network and previous interview subjects. We aim to uncover the respondents' perceptions on RoT issues, and find similarities between how designers create RoT benefits, and how users perceive these benefits. An example could be that a product is designed with an easy-to-use user interface, and consumers appreciate this benefit when using the product.

### **Quantitative research**

For the second part of our methodology, we will use a questionnaire distributed to consumers. The questionnaire will try to test the concepts of design on innovations with different degrees of tangibility that give ROT benefits for consumers and based on this, how willing consumers will be to adopt these innovations. The questionnaire will be built by taking into account the segmentation previously discussed. The demographic part of the survey will help in segmenting consumers answering our survey. In addition, since the degree of tangibility of the innovations' output is a significant consideration, the survey will be divided in two parts, tangibility extremes: one concern products – the tangible part; and one relating services – the intangible part.

It is very important to use the constructs determined through the qualitative part, which will bring inputs from the real world and will provide us with a better perspective on how to obtain the necessary information from consumers. These constructs will also assist in the development of hypothesis.

In order to estimate these causal relations, the results of the questionnaire will then be tested through Structural Equation Modeling.

## Discussion

### Implications for business managers

The managerial benefits of a design approach to the innovation issue are many. Paul Bennet, creative director at IDEO, argues that design is strategic, and as a tool produces sustainable competitive advantages. Companies who adopt design thinking, and use design as a strategic tool, will need to change their culture in doing so. Ultimately, this is proven to reduce the company's risk-aversion that would otherwise limit their innovation capability. Consciously including design early in the innovation allows for solutions to be prototyped, tested and evaluated earlier than normal and before large costs are acquired. This is one approach to the design-method and allows for easier prioritizing of promising solutions. Ultimately, this increases an innovation's success rate, as bad ideas are discarded. It also allows designers to optimize solutions by learning from mistakes. Including design in later stages of the innovation process is more common, especially in terms of packaging design.

An in-depth study by the UK design council on eleven globally leading brands' design-activity (Design Council, 2007) show that good design creates more competitive solutions, decreases production cost while allowing higher prices. It increases customer retention and acquisition rates, and generates word-of-mouth effects. Lastly, design builds stronger brand identities, which encourages consumer trust and increases adoption of new offers. This is perhaps because the user-focused result of design, in addition to existing brand associations, makes consumers more comfortable with the new solution. Managers will appreciate such benefits from our research.

A popular expression goes "The storm is the time to fish", meaning that during today's economic storm, there are a lot of great ideas and opportunities to fish for beneath the surface. If a company does not act during a recession, it may risk being left even further behind when the curve points upwards again! This philosophy it is a path to sustainable competitive advantage in an otherwise unstable business environment.

Products and services are becoming increasingly similar, and businesses are forced to offer something in addition, a “meta-product”. Customers are in search of not only products and services that fulfill their needs, but also solutions that surprise and excite them – that creates a total customer experience. Starbucks is a brilliant example where the product itself is no longer the unique selling proposition due to the use of design. Design helps create a relevant, unique and holistic customer experience - this is a sustainable competitive advantage in today’s consumer market. This is where service design is strongest, and given the rapid growth of the service industry in the western world, service design and its mind-set deserves a place in managers’ minds.

Design is, to a manager, just one of several ways of reaching a goal, e.g. of increased sales. She could instead spend her budget on a marketing consultant, a direct mail campaign, or some other activity. Even though design has proven itself to be effective, many managers are struggling with the uncertainty of the outcome from the process, as well as measuring Return on Design Investment can be very difficult. As such, many managers are not willing to accept the risks involved in adopting design as a strategic tool. This paper tells managers that the benefits of user-focused design can outweigh the risks.

Design-focused Innovation is a hot topic, having received attention from both EU (European Commission, 2010) as well as governments (Norwegian Design Council, 2010). Despite successful design-focused innovation stories, and increased attention to design as a strategic tool from governments, businesses and scholars, design is still not considered as a competitive strategic innovation tool. This paper will therefore contribute to steering managers’ attention to the many benefits of design, by exploring and applying its philosophy of user-focus. This is done by exploring the use of design to meet a current and future consumer-need in relation to RoT.

The concept of ROT and its benefits for consumers come to complement the complex welfares provided by using design in the innovation process. Since one of today’s managers’ most fearful threats is to invest money in innovations that would not appeal to consumers, ROT has been derived from user focused research and it thus has the potential to improve consumers’

well-being. Aiming for sustainability and long-term profitability, managers' ultimate goal should be enhancing consumer's well-being.

Correlating design use in innovation with the purpose of serving the ROT customer trend should represent an appreciated value added proposition from businesses. The promise of optimizing ROT may determine consumers to adopt and use the offerings. This will lead to innovation success, translated into high probability of adoption from new and old customers, activating customer trust, satisfaction and loyalty (customer acquisition and customer retention), and thus a high number of sales and the construction of brand equity, which finally attract profits and long-term recognition on the market.

Once again, this paper will emphasize how important it is for a business to be user-focused, to pay attention to consumer needs and to create solutions in order to meet them.

### **Implications for researchers**

Although strong journals such as *Journal of Product Innovation Management* have engaged in design discussions, and new journals such as *Design Management Review* have appeared, design has yet to receive the attention it deserves. Most of the design literature, except perhaps of Verganti's contribution, has a very theoretical approach to design. Our paper will have a stronger base in practitioners' views and perceptions, as we are very unfamiliar with the topic and their input will steer our thoughts and analysis. It seems that design is receiving greater attention in business than in academics, and we therefore contribute by setting the spotlight at its applications. As design in new product development can be considered a part of marketing, we set the stage for further academic exploration of design used as a source for competitive advantage.

Most of the research on consumer time-perception occurred in the 70s and 80s, and we believe consumers have a different and more hectic view of time-management today. An example is the focus on stay-at-home wives in previous literature, an approach that is somewhat outdated in today's western society. This illustrates a need for updating the literature, which this research does. We are building our research on the trend-spotting done by Andreassen, Olsen, Calabretta (2011a) where the authors explore and define the aspect of RoT. We add to this literature by exploring how managers can

pragmatically innovate to meet this trend, using design as a strategic tool. The RoT concept we use includes both saving and spending time, whereas most time-research has focused on one or the other. We therefore consider RoT to be a more complete concept, and we help promote its implications.

It is difficult to predict areas of future research so early in the process, but exploring the RoT issues in a B2B setting could be very interesting. Also, as consumer trends are deep user-needs, and design is particularly user-focused, they complement each other, and scholars can adopt the design approach to explore other current trends. As we encourage the use of design in the innovation process, further research may focus on the applicability in each stage of the innovation process. Literature may also explore how successful design-conscious companies work and think, especially in regards to consumer-research, and create a “success formula” for companies to adopt. The effectiveness of using design to meet current RoT trends may also depend on the degree of radicalism the innovation represents, which may require future exploration. Measuring designs ability to meet consumer-trends, compared to other methodologies is of interest. As is comparing designs ability to optimize RoT compared to other approaches to the trend.

## **Authors' Motivation**

We believe creating new solutions for customers is the most exciting part of business, and it is one of the most effective marketing tools that create competitive advantages. As such, studying innovation for the master thesis is a perfect opportunity to acquire much needed knowledge. We believe such knowledge is in demand in business today, especially in Norway where we see a shift from the focus on raw materials, and in international business in general. Knowledge about challenges and opportunities of innovation is a great way to prepare ourselves for when we enter the working-market.

Since solutions are becoming more similar and copy-cats are used extensively, design is becoming a great competitive tool. Design's close relation to branding is also of high interest, and as such design is a great marketing tool. We see that today's successful innovations have an emphasis on design, such as Apple, and we believe this will only increase in the future. Design is applicable across a vast area of industries, especially if one believes



that “everything that is not made by God is designed”. The user-focus of design appeals to the marketers in us, as well as designs ability to understand customers, deliver to their needs, and excite them.

Learning about current trends can be very useful in understanding today’s consumers. Return on Time is perhaps one of the most dominating current trends, as everyone is concerned with their time and how they spend it. A deep knowledge of this trend is very fulfilling on an academic-, business-, and personal level. As time is very important to consumers today, selling them more time is one of the strongest propositions one can make today. Knowledge and understanding of this issue will be helpful when we enter the working market, certainly in B2C industries, but also in B2B industries where time can perhaps be an even stronger concern. Time is abstract and complex, and perhaps many take it for granted and do not study its implications – this gives us an advantage in business.

The methodical approach to a master thesis will represent for us a step by step learning curve; constantly question ourselves based on newly acquired knowledge. The high degree of autonomy in this process will certainly mature us, as will do learning from experienced researchers. Business writing is often challenging, but a scientific article such as a master thesis demands logical and clear communication of our thinking, analysis and findings. We are therefore certain our communicative skills will improve greatly from the project, and we will seize this opportunity to constantly improve our writing. As marketers, we will use market-information in the future, and it is therefore very beneficial to have been through a real qualitative and quantitative data collection and analysis ourselves. This knowledge will allow us to better communicate with and understand market analysts.

To summarize, we believe the journey ahead will be tremendously rewarding, and we are looking forward to every part of it.

## Progression plan

Our interest in the chosen topic makes us keen on investing our time and knowledge into this research in order to do a quality job and obtain valuable findings.

16 <sup>th</sup> January – 15 <sup>th</sup> March	Qualitative data collection
23 <sup>th</sup> January– 23 <sup>th</sup> March	Qualitative data analysis and

	conclusions
24 <sup>th</sup> March – 17 <sup>th</sup> April	Write hypotheses based on blending Literature Review with Qualitative findings
18 <sup>th</sup> April – 26 <sup>th</sup> April	Create questionnaire
27 <sup>th</sup> April - 11 <sup>th</sup> May	Collect quantitative data
12 <sup>th</sup> May – 19 <sup>th</sup> of May	Clean quantitative data
20 <sup>th</sup> May – 27 <sup>th</sup> May	Quantitative data analysis
29 <sup>th</sup> May – 6 <sup>th</sup> June	Write research methodology
7 <sup>th</sup> May – 14 <sup>th</sup> June	Write research findings
15 <sup>th</sup> June – 21 <sup>th</sup> June	Write conclusions and implications
22 <sup>th</sup> June– 1 <sup>st</sup> September	Revise, revise, and revise.
22 <sup>th</sup> June – 1 <sup>st</sup> September	Safety buffer

## Bibliography

1. Anderson, Eugene W. and Steven M. Shugan (1991), "Repositioning for Changing Preferences: The Case of Beef Versus Poultry," *Journal of Consumer Research*, 18 (September), 219-32.
2. Andreassen, T.W., L. L. Olsen and G. Calabretta, (2012A), Prosper through Innovation: Trend Spotting Gets You There, BI Norwegian Business School, Working paper.
3. Andreassen, T.W., L. L. Olsen and G. Calabretta, (2012B), Return On Time: The Construct and its Implications for Innovations, BI Norwegian Business School, Working paper.
4. Berry, Leonard L. (1979), "The Time-Buying Consumer," *Journal of Retailing*, 55 (Winter), 58-69.
5. Design Council. 2007. Eleven Lessons: Managing Design in Eleven Global Brands – A Study of the Design Process. Accessed on 04.01.2012. Available at [http://www.designcouncil.org.uk/Documents/Documents/Publications/Eleven%20Lessons/ElevenLessons\\_Design\\_Council.pdf](http://www.designcouncil.org.uk/Documents/Documents/Publications/Eleven%20Lessons/ElevenLessons_Design_Council.pdf)
6. European Commission (2010). *Europe 2020 Flagship Initiative Innovation Union*. Accessed on 04.01.2012. Available at [http://ec.europa.eu/enterprise/policies/innovation/policy/innovation-union/communication/iu\\_en.pdf](http://ec.europa.eu/enterprise/policies/innovation/policy/innovation-union/communication/iu_en.pdf)
7. Feldman, Laurence P. and Jacob Hornik, (1981), "The Use of Time: An Integrated Conceptual Model," *Journal of Consumer Research*, 1 (March), 407-19.
8. Garretson, R. C. and F. F. Mauser. "The Future Challenges Marketing," *Harvard Business Review*, 41 (November/December 1963), 168-78, 186-88.
9. Gemser, G. and Leenders, M.A.A.M. (2001). How Integrating Industrial Design in the Product Development Process Impacts on Company Performance. *Journal of Product Innovation Management*. (18):28–38.
10. Hertenstein, J.H., Platt, M.B., and Veryzer, R.W. (2005). The Impact of Industrial Design Effectiveness on Corporate Financial Performance. *Journal of Product Innovation Management*. (22):3–21.
11. Holbrook, Morris B. and Donald R. Lehmann (1981), "Allocating Discretionary Time: Complementarity Among Activities," *Journal of Consumer Research*, 1 (March), 395-406.

12. Jacoby, J. (1974). "Consumer Reaction to Information Displays: Packaging and Advertising". *American Marketing Association*. 101-18.
13. Jacoby, Jacob, George J, Szybillo, and Carol K. Berning, (1976), "Time and Consumer Behavior: An Interdisciplinary Overview," *Journal of Consumer Research*, 2 (March), 320-39.
14. Karat, J., (1996). User Centered Design: Quality or Quackery?. *Interactions*, Vol.3, No.4, pp.19-20.
15. Kelley, T. (2001). *The Art of Innovation*. New York: Currency.
16. Leifer, R., ed., *Radical Innovation*, Harvard Business School Press, Boston, MA, 2000.
17. Norwegian Design Council/ Norsk Designråd. (2010). *Designdrevet Innovasjonsprogram/ Design-driven Innovation Programme*. Haugesund Bok og Offset AS. Accessed on 04.01.2012. Available at [http://www.norskdesign.no/getfile.php/Filer/Artikler/Om%20oss/DIP\\_2010\\_web.pdf](http://www.norskdesign.no/getfile.php/Filer/Artikler/Om%20oss/DIP_2010_web.pdf)
18. Ofek, E., and L. Wathieu, (2010), Are You Ignoring Trends That Could Shake Up Your Business?, *Harvard Business Review* 88, no. 7/8: 124-131.
19. Rea, J., C.Fudge, C. Hudson. (2011). From products to services: Understanding the new rules of engagement. *Design Management Review*. 22 (4): p. 46–53.
20. Saco, R.M., A.P. Goncalves (2008) Service Design: An Appraisal. *Design Management Review*. Vol. 19 (1)
21. Schary, P. B. "Consumption and the Problem of Time," *Journal of Marketing*, 35 (April 1971), 50-55.
22. Schneider, J., J. Hall. 2011. *Why Most Product Launches Fail*. Harvard Business Review 89, no. 4 p. 21-23.
23. Sir George Cox. 2005. *Cox Review of Creativity in Business: building on the UK's strengths*. Accessed on 07.01.2012. [http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/coxreview\\_index.htm](http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/coxreview_index.htm)
24. Strahilevitz, Michal and John G. Myers, (1998), Donations to Charity as Purchase Incentives: How Well They Work May Depend on What You Are Trying to Sell, *Journal of Consumer Research*, Vol. 24 (March), 434-446
25. Tidd, J., Bessant, J. Pavitt, K. (2001). *Managing Innovation; Integrating Technological, Market and Organisational Change*. Chichester, UK: John Wiley & Sons Ltd.
26. Van Stamm, Betina. 2008. *Managing Innovation, Design and Creativity 2<sup>nd</sup> edition*. Glasgow: John Wiley & Sons Ltd.
27. Vargo, S.L., R.F. Lusch. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*. (68): 1-17
28. Verganti, Roberto. (2008). Design, Meanings and Radical Innovations: A Metamodel and a Research Agenda. *Journal of Product Innovation Management*. 25. P. 436-456.
29. Veryzer, R. W. (1998) Discontinuous innovations and the new product development process. *Journal of Product Innovation Management*. (15): p. 304-321.
30. Veryzer, R.W. and Borja de Mozota, B. (2005). The Impact of User- Oriented Design on New Product Development: An Examination of Fundamental Relationships. *Journal of Product Innovation Management*. 22, p. 128–143.

31. Vredenburg, Karel, Isensee, Scott and Righi, Carol (2002). *User-Centered Design: An Integrated Approach*. Upper Saddle River, NJ: Prentice Hall PTR
32. West, Michael A. 1997. *Developing creativity in organizations*. UK: BPS Books.