# THE MARKETING OF ROBO-ADVISORY

- A study of the marketing implications in automated investment services –

**ABSTRACT:** Automated investment services is an emerging service niche within the consumer finance industry and is expected to have a significant impact on the industry structure. This innovative service is challenging multiple of the established characteristics of service marketing theory and existing conventions within the consumer finance industry. This study maps and measure the critical marketing aspects for this new service innovation through a mixed-method approach. Through an explorative research study including one of the few existing service providers in the field and its users, the major marketing implications within automated investment services are identified. These findings are tested through a confirmatory quantitative experiment involving 218 respondents. The final results reveal the importance of the service value proposition and the user's knowledge for consumers' innovation adoption intention. These results question the existing theoretical position of corporate credibility and puts it into context of digital service innovations. The study's findings generate interesting managerial implications regarding value proposition, market segmentation and customer targeting for practitioners within the growing field of automated investment services.

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# 1. INTRODUCTION

## 1.1 BACKGROUND

On March 15, 2016, the algorithm AlphaGo won against Lee Sedol, by many regarded as the most skilled human Go player alive today, in the highly dynamic board game Go. For artificial intelligence enthusiast around the globe, this was an inspiring victory and spurred a discussion about what computers will beat humans in next (Nature, 2016).

The rapid development within information and communication technologies is having a profound impact on the Swedish society and Swedes are considered to be the world's most digitally mature population. The digitalization is driving change in people, organizations and business models. The financial industry is no exception, despite its complex regulations and substantial entry barriers. Financial Technology, FinTech, is a central concept in the structural change and digitalization of the financial service industry that is currently growing rapidly and attracting massive investments (Dagens Industri, 2016).

New technologies and business models are challenging the operations and logics in traditional financial areas, such as banking, payment technology and lending. In Sweden, the transactional value for the FinTech market amounts to mUSD 16,862.6 in 2016 and is estimated to grow by 22% annually until 2020 (Statista, 2016). From a consumer perspective, the digital progressions are resulting in increased convenience through new service distribution (e.g. mobile and web banking) and lower costs through service automation.  In 2016, the Consumer Finance segment of FinTech is estimated to reach mUSD 269.5 in Sweden alone, and is expected to have an annual growth of 76% per year until 2020. The majority of this growth is expected to come from the rise in usage of automated investment services. In short, automated investment services are passive asset managers who offers automated online investment portfolios that are tailored to the individual user's investment profile. In media, it is commonly referred to as "robo-advisory". Essentially, they replace the role of the traditional investment advisor. The market for automated investment services is expected to have an annual growth rate of 66% in the next 4 years in Sweden. From a worldwide perspective, the automated investment service industry is expected to grow by 40% per year from mUSD 121,160.4 to mUSD 469,790.3 in 2020 (Statista, 2016).

The growth of "robo-advisory" is highly interesting to study from a consumer marketing perspective as the technology enables service providers to cut of the human interaction in a service industry that was, and still, is characterized by trust, intimacy and long-term client relations. The nature of automated investment services also contradicts multiple of the previously identified characteristics and challenges of service marketing in general.

However, there are substantial marketing challenge to conquer in this novel service field. For example, multiple experiments have been conducted on the context of computer-human advisory and the concept of "algorithm avoidance" has appeared. Algorithm avoidance is a phenomenon which captures human's skepticism of algorithm based recommendations and how humans consistently prefer human judgment (Frich, 2015).

Due to the novelty of automated investment services, very little empirical research has been completed on the topic. What has been done has mainly focused on the technicalities of the algorithms performing the information processing and transactions. Since the automated investment services market is expected to grow rapidly the upcoming years, there is a great need to understand the marketing implications of these service innovations further.

## 1.2 PURPOSE AND RESEARCH QUESTIONS

The purpose of this thesis is to identify the major implications in the marketing communications of automated investment services. From a theoretical perspective, this thesis aims to identify and measure the communication factors that impact consumers' adoption intention of a service innovation within the financial industry. In order to fulfil this purpose, the research was divided into two parts; first a qualitative, exploratory, investigation followed by a quantitative, confirming investigation. To contribute to our purpose and theoretical aim we were guided by the overall research question:

**Overall Research Question:** *How can automated investment services be marketed in order to increase the consumer's innovation adoption?*

In the first part of this research, the objective was to explore what marketing implications and communication factors that are of the biggest concern to both service providers and users of automated investment services. This objective was achieved by merging both findings in existing research on the related topics with the findings from our exploratory research. The research questions for the first part was

**Research Question 1:** *Which are the major consumer marketing implications within automated investment services?*

In the second part of this study, we aimed to test and generalize our findings from our exploratory research through a large scale experiment. In this section, we were guided by the research question

**Research Question 2:** *To what degree do corporate credibility, framing of value proposition and receiver knowledge drive a consumer's intention to adopt an automated investment service?*

The spread of automated investment services will democratize the access to efficient and optimized wealth management, a service that has previously been exclusive to a minor share of the population. It is in the thesis author's interest to support this development, as it will likely have a positive impact on the general public's wealth and well-being.

## 1.3 EXPECTED CONTRIBUTION

Through answering the research questions mentioned above, we expect to contribute to the existing body of research within service marketing in two ways. First, the digitalization of our society is changing the way services are distributed and delivered, both within private and public sector. Through our research, we hope to increase the knowledge regarding how this development is impacting the marketing of services. Additionally, as Zeithaml et al. (1985) identified, there is a need for additional research on the differences between various services. We intend to contribute to the service marketing research by identifying the central concepts of service marketing within the consumer financial industry.

By identifying and testing these concepts, we will contribute to the scientific foundation for studying digital services, a field of growing importance. Furthermore, we intend to raise awareness on the growing academic blind spot that digital services currently has within the service marketing research.

Secondly, through focusing on an industry ongoing rapid change, we expect that the findings presented in this thesis will be of interest and value to the marketing practitioners in the consumer finance service industry. We particularly hope that these finding will support the marketing process of our case company, Pensio, which will be further presented in section 3.2.1.

Finally, as digitalization and automation of services is becoming more frequent within multiple service areas, we hope that this thesis will inspire additional researcher to look at the complexities and opportunities in marketing services through human-computer interaction.

## 1.5 DISPOSITION

As the objective of this thesis was to both explore potential marketing implications within a developing industry and to confirm the findings, this paper is structured into two parts; one exploratory study and one confirmatory study. The outline of this thesis consist of 7 chapters; 1. Introduction, 2. Theoretical Background, 3. Research Design 4. Exploratory Study, 5. Confirmatory study, 6. Discussion and 7. Conclusions. In the first chapter, we will explain the background and purpose of this thesis. The second chapter will put the reader in the theoretical context of this research through presenting the most relevant research within the related fields. In the third chapter, we will explain how and why we decided to structure the research in the way we did. We will also provide an overview of the case service we used in the exploratory part of this study. In the fourth chapter we will describe how we conducted the exploratory research and present the findings that it generated. In chapter five, the confirmatory study is described and the findings presented. In chapter six, we will discuss the findings from our research and the theoretical implications they bring. In the final chapter, we will present the conclusions from the thesis and managerial implications, together with recommendations for future research.
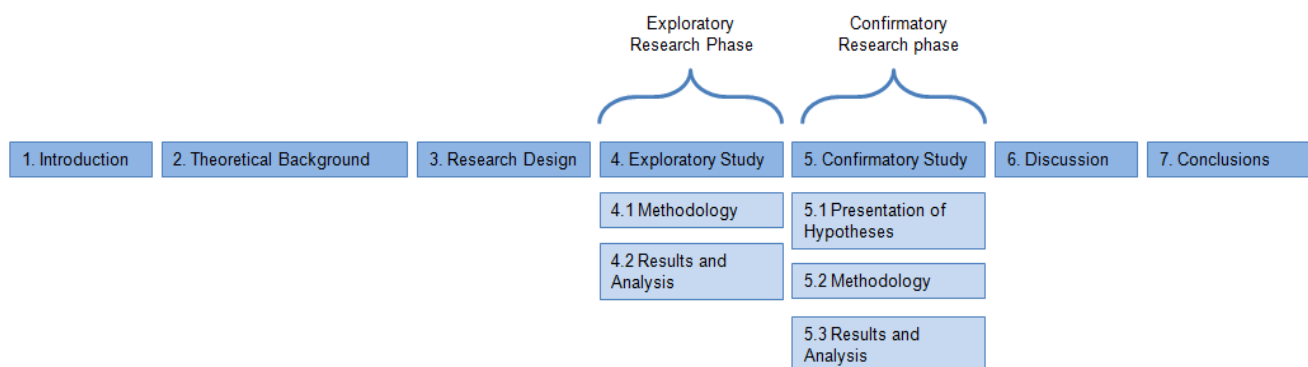


FIGURE 1 DISPOSITION OF THESIS

# 2. THEORETICAL BACKGROUND

*This chapter provide an overview of the most relevant research that has been conducted within the academic topics related to our thesis. The first two sections, 2.1-2.2, presents the foundational theories within service marketing and communications. Section 2.3-2.6 present the theories related to the areas identified through our explorative study and acts as the theoretical framework for our confirmatory study. The theories originate from traditional established marketing and innovation theories and are applied in the context of service innovation.*

## 2.1 MARKETING OF SERVICE INNOVATIONS

### 2.1.1 MARKETING OF SERVICES

In 2006, services accounted for approximately 70% of the aggregated production and employment in the OECD nations and contributed to 75% of the GDP in the United states, the world's largest economy. As services continues grow in importance and size of GDP in developed world economies, it becomes even more important for firms to focus on developing their ability to market and innovate their service offering (Berry et al., 2006). *Services* can be defined as the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself (Vargo and Lush, 2004). Bitner et al. (2008) proposes another view stating that services are co-produced in real time by different actors, such as customers and employees, and technology with few physical features. Within this thesis Vargo and Lush's (2004) definition of services is the most accurate and will be the one used.

In their review of the service marketing literature, Zeithaml et al. (1985) conclude that there are four distinct differences in services compared to products and that this have clear implications when marketing them. Services have the characteristics of *intangibility* - services often have few physical attributes to display, *inseparability* - service are often produced and consumed at the same time and place, *heterogeneity* - service performance are often unique to the customer, *perishability* - services cannot be stored and saved. This implies that services are evaluated differently than products. Services and goods can be evaluated on *search qualities* (attributes that customer can evaluate prior to purchase), *experience qualities* (attributes that can be evaluated after purchase or during consumption) and *credence qualities* (attributes that are hard to evaluate even after purchase and consumption) (ibid).

The intangible, unique, inseparable and perishable nature of services lead them to host few search qualities but high level of experience and credence qualities. This makes it harder for customers to evaluate services than products (Zeithaml, 1981; George and Berry, 1981). In response to these service marketing challenges, previous literature has identified the importance of institutional image and the use of physical cues such as specific facilities and personnel to enhance it (Zeithaml et al., 1985).

The developed world's increasing focus and dependence on services has likely driven academics to study the process of service innovation and marketing. Vargo and Lusch (2004) are merging this shift in perspectives, from products to services as the dominant factor of economic exchange in their influential marketing theory Service Dominant Logic (S-D Logic). Vargo and Lush elaborate on the differences between the traditional goods-centered dominant marketing logic (pre-1980) compared to the emerging service-centered dominant logic (1980-). Central to this "new" perspective on marketing is 1) the role of applied and embedded knowledge and skills as the fundamental unit of economic transaction and 2) the role of the consumer/customer as a co-producer of service and value determination. In their extended work on the theory, Vargo and Lush states that "*The enterprise cannot deliver value, but only offer value propositions,*" highlighting the statement that value is created by the enterprise in collaboration and interactively with the customer (pp.7, Vargo and Lush, 2008).

## 2.1.2 SERVICE INNOVATIONS

*Innovation*, can be defined as an idea, practice, or object that is perceived as new by an individual or another unit of adoption. An innovation presents an individual or an organization with a new alternative or alternatives, with new means of solving problems (Rogers, 2003). Through merging the definitions by Vargo and Lusch (2004) with Rogers' (2003), *Service innovation* can thus be defined as *a new way of applying specialized competences through deeds, processes and performances for the benefit of another entity or the entity itself.*

The rapid advancement in information and communication technology (ICT) has had a significant impact on the service marketing landscape, challenging the some of the previous assumptions regarding the characteristics of services through innovative solutions. For example, multiple large service providers have developed service offerings that poorly resemble the characteristics of *inseparable* and *heterogeneous* (Berry et al., 2006). For example, Netflix, a digital entertainment service provider, enables customer to access movies and series through their web and app interface, when it suits the customer. This is separates the service production and service consumption process. Furthermore, multiple banks now offer online banking interfaces, allowing the customers to utilize standardized and

automated banking services, often unconstrained by time of day or day of week. These kind of services are both separable and homogeneous in their nature, contradictory to the characteristics set by Zeithaml (1981).

## 2.2 COMMUNICATION WHEN INTRODUCING A SERVICE INNOVATION

As previously stated, the marketing of services shares the characteristics of intangibility inseparability, heterogeneity and perishability. This limits the amount and type of information about the service that are available consumers. Consequently, these features significantly impact the marketing communication of services (Abernethy and Butler, 1992).

Services are less communicable than products due to their intangibility (their features are hard to display) and their uniqueness to each individual buyer. Services are usually less divisible because they are harder to sample and test than goods (even if this is being challenged through freemium models and trial periods). Services are often more complex than products because they are often a bundle of different attributes, which might be tailored for each individual customer (Zeithaml, 1981). In the case of automated investment services, these service attributes could include a web interface, a mobile app interface, an investment decision algorithm, a market information tracker, monthly letters and client support. Services may also be incompatible with existing values and behaviors (ibid.). This is often the case for service innovations, in which some attributes of the service might be new to the user (Berry et al., 2006). For example, in the case of automated investment services, some customers might be accustomed to receiving investment and personal finance advice by an investment professional through a physical meeting at a bank office, instead of receiving the advice from a software interface on a smartphone screen.

When introducing a new product or service, the main communication target is often to build category need within the target group (De Pelsmacker et al., 2010). This is often done by pointing to relative advantages between the new product/service and the existing solution, aiming to explain what needs are better fulfilled with the innovation. According to De Pelsmacker et al. (2010), automated investment services can be classified as quality services. In the introduction phase of quality services, *network relations* between existing and potential customer and service intermediaries are crucial and trails of the innovation are often done after being advised by friends or other relations (ibid.). For services in general, it has been noted that word-of-mouth to be critical for services because of the attributes regarding intangibility and heterogeneity (Zeithaml et al. 1985). Multiple studies have found source

credibility to be one of the most prominent factors in persuasion in general (Colliander and Dahlen, 2011).

Introducing new products or services to consumers pose multiple significant challenges for marketers due to the related learning costs that these products or services entail for consumers. Learning costs refer to the process in which consumer familiarize themselves with the new product or brand (Klemperer 1987). However, the learning process might also provide a substantial opportunity, as marketers in these circumstances can choose more freely how to introduce the product and thus influence consumers' perspective on the product (Moreau et al., 2001).

## 2.3 SOURCE CREDIBILITY

*"Because then it feels reliable. I would not think that a big company like the one I am working for would collaborate with an organization that wasn't serious"*
(Anna, 48, April 1, 2016)

Within the communication literature, researchers share the view that the attributes of the communicator affect the persuasiveness of an appeal (Dholakia and Sternthal, 1977). The view is that highly credible sources are in most situations found to be more persuasive than sources with low credibility (Dholakia and Sternthal, 1977; Harmon and Coney, 1982). This idea is the foundation when politicians use highly regarded individuals or groups as endorser of their candidacies but it is also a common phenomenon used in fields as advertising and PR (Harmon and Coney, 1982). Sources that are viewed as credible are believed to share the three attributes trustworthiness, expertise and attractiveness (Dholakia and Sternthal, 1977; Harmon and Coney, 1982).

However, in the literature examining the relationship between attitude change and source credibility, the findings have been inconsistent and discussed at several occasions from different perspectives (Wiener and Mowen, 1986). Among other researchers, McGuire (1969) found strong support for expertise and attractiveness but none for trustworthiness. Since trustworthiness influence on persuasion has been of importance in several theoretical fields, the relationship between the triad, trustworthiness, expertise and attractiveness, has been examined further. Wiener and Mowen (1986) proved through an experiment that when attractiveness remained constant both expertise and trustworthiness had impact on source credibility, a finding that was also supported by Harmon and Coney (1982). Thus, in a context where the attractiveness of the sender is non-existing, expertise and trustworthiness will influence the persuasiveness.

### 2.3.1 CORPORATE CREDIBILITY

A related concept to source credibility is corporate credibility, which has been conceptualized as a form of source credibility. Corporate credibility is of relevance when a specific company producing a product or service is seen as the source of the communication (Goldberg and Hartwick, 1990). The dimension attractiveness in source credibility include attributes as how "sexy" and "elegant" the source appears to be (Ohanian, 1990), which is not applicable to an organization. Therefore, corporate credibility builds on the perceived trustworthiness and expertise of the company (Newell and Goldsmith, 2001), which also harmonize with Wiener and Mowen's (1986) findings.

When companies are not perceived as credible, they will have difficulties in achieving brand preferences or present effective ad messages to their consumers' (LaBarbera, 1982). This is further proved by Lafferty and Goldsmith (1999), who proposes that corporate credibility alone influence purchase intentions as well as have an impact on consumers' attitude toward the brand.

## 2.4 RECIPROCAL VALUE PROPOSITION

A subject widely discussed in marketing theory is how value is created, maintained and promoted (Troung et al., 2011). Its importance has increased even further with the emergent field of S-D Logic, proposed by Vargo and Lusch (2004), in which they see the value propositions as a fundamental part of the S-D logic. In this perspective, the idea is that value is co-created in-use, through which both the supplier and consumer plays an important role and thus, the value proposition is forming the expectations of value-in-use (Frow and Payne, 2011). While studying value propositions through an S-D logic lens, *Reciprocal value propositions* has arisen.

Reciprocal value propositions are built on the notion that consumers and suppliers are seeking a justifiable exchange from a promise of value and hence, value propositions always are two-way (Ballantyne, 2003). However, when Troung et al. (2011) was studying reciprocal value in practice, they found that even though it is a compelling concept, there were several constraints in practice. Troung et al. (2001) findings concur with Vargo and Lusch's (2004) foundational premise 7 of their S-D Logic, which states that: "*an enterprise only can make value propositions that strive to be better or more compelling than those of competitors*" (pp. 11, Vargo and Lusch, 2004).

Even if we wish to present our thesis through the S-D logic lens, existing theory of the Reciprocal value propositions is conflicting and has led us back to the notion that enterprises

only presents value propositions. We have thus decided to seek a clearer guidance in the historical theories of value propositions to gain a deeper understanding of how these can be presented more compelling.

## 2.4.1 VALUE PROPOSITIONS

The value proposition connects the firm to its customers and is one of the central concepts in marketing (Holttinen, 2013). The concept of value propositions was introduced in the 1980s by Lanning and Michaels at McKinsey & Company, a consultancy firm, whom defined it as a promise of value offered to consumers', presented together with the benefit and cost (Ballantyne et al., 2011). Important to bear in mind is that costs refers to what the customer has to give in return (Barnes et al., 2009), which is not necessarily money but could also be non-monetary costs such as risk, time and effort (Kambil et al., 1996; Murphy and Enis, 1986). According to Lanning and Michael, a value proposition can be implemented through a *value delivery system* including three steps; *choosing the value, providing the value* and *communicating the value* (Ballantyne et al., 2011).

Anderson et al. (2006) suggest that a value proposition can be framed in three different ways; *all benefits* (list all benefits of an offer), *favorable points of difference* (focus on benefits that differs and provides an advantage to competitors), and *resonating focus* (focus on few benefits that are connected to customers' specific needs). According to Anderson et al. (2006), the resonating focus is most beneficial since it is considerate about the customer needs. In line with this reasoning Anderson and Carpenter (2010) proposes that a value proposition with differentiation points provides the consumer with a stronger reason to select their products or services in comparison to their competitors (as cited in Yavari et al., 2016). In order improve the value proposition and make it more consumer-centric there are five dimensions a company can use (Lindi and da Silva, 2011). These are: *Performance* (how the organization work to best serve their customers and still be profitable), *Ease of use* (the degree how the customer perceives a certain system to be effortless), *Reliability* (the products/services ability to deliver according to its qualifications), *Flexibility* (the firm's ability to respond to environmental changes), *Affectivity* (Emotions associated with using a company's products/services). By connecting the value proposition to customer needs it is believed that the actual value can become more tangible and transparent for the consumer (Anderson et al., 2006).

## 2.5 PRIOR KNOWLEDGE

*"When faced with something unfamiliar we often attempt to understand it by relating to something familiar"* – (pp.267, Gregan-Paxton and John, 1997)

In order to understand how consumers can learn from product experience, word-of-mouth or advertising, consumer learning has been an important topic within the marketing literature. What has been found is that consumers can transfer their existing knowledge of a similar product to a new product (Gregan-Paxton and John, 1997). The fact that existing knowledge is central for the creation of new knowledge has also been shown in both consumer behavior and psychology research streams (Cummins, 1991; Moreau et al., 2001). According to Gregan-Paxton and John (1997) a more comprehensive view of knowledge transfer is that it occurs through analogical learning. The idea of analogical learning is that knowledge transfers from one domain (the base) to another (the target). It comprises of four stages (e.g. Anderson and Thompson, 1989; Holyoak and Thagard, 1989), which are accessing the base domain, mapping the elements of the targets to the base, transferring knowledge from the base to the target and induce a schema. From a marketing perspective the access phase is of importance since this is where cues can trigger that the right information is accessed and thus activate a potential base domain as a source of information (Gregan-Paxton and John, 1997).

### 2.5.1 EXPERTS VS. NOVICES

Apart from the fact that prior knowledge has an effect when learning about new products, the degree of the prior knowledge (high or low) can impact the learning outcome (Wood and Lynch, 2002). However, there has been contradictory research streams discussing if high prior knowledge is preferable or not. Consumers with high prior knowledge are often referred to as experts, which according to Spence and Brucks (pp. 134, 1997) can be defined as *"someone who has acquired domain-specific knowledge through experience and training".* Gregan-Paxton et al. (2002) argue that experts has processing advantages since they both possess more knowledge and that it is more richly interconnected. It is also shown that experts use more automated thinking process in contrast to novices (Larking et al., 1980) which saves time that can be used to learn new information instead. In contrast, Wood and Lynch (2002) suggest that experts tend to incorrectly generalize their knowledge of existing products and thus assume that they already know how to use the new product. In one of their studies, Wood and Lynch (2002) propose that experts may perform better when products are perceived as more new and that novices had a better performance when products are perceived as less new.

## 2.6 HOW INNOVATIONS SPREAD

The research relating to how innovations are spread in a society, group or organization is a substantial research field and often involves multiple academic areas. Rogers' diffusion of innovations theory is frequently cited in relation to this topic. According to Rogers, *diffusion is the process by which an innovation is communicated through certain channels over time among members of a social system* (pp. 5, Rogers, 2003)*.*

*Innovation adoption* refers to a consumers' choice to fully make use of an innovation (Rogers, 2003) and it intends to capture the two concepts of *adoption intention* and *adoption behavior* (Arts et al., 2011). Adoption intention reflects a consumer's desire to purchase a product in the future while adoption behavior rather refer to the trial of an innovation (Rogers, 2003). It has previously been concluded that there is often a critical discrepancy between consumers intention to adopt an innovation, what consumers say that they will do, and the actual consumer behavior that follows (Arts et al., 2011). This discrepancy is also referred to as the KAP-gap: knowledge-attitude-practice (Rogers, 2003). This pose a challenge when researching on the effectiveness of the communication of a new innovative product or service. In this study, we limit our scope of research to focus on the factors that impact consumers' innovation adoption intention and not the adoption behavior.

Research within the field of innovation adoption has found that both the *characteristics of the adopter* and the *perceived characteristics of the innovation* are major drivers in rate of innovation adoption (Meuter et al., 2005; Rogers, 2003; Tornatzky & Klein, 1982). *Perceived characteristics of the innovation* refer to the attributes that consumers use to evaluate the innovation. This includes the consumer's perceived uncertainty or perceived risk in relation to adopting the innovation (Ostlund, 1974). Uncertainty can be defined as the degree to which a number of alternatives are perceived with respect to the occurrence of an event and the relative probabilities of these alternatives. Uncertainty implies a lack of predictability, of structure and of information. Uncertainty regarding an innovation can be reduced through information about the cause-effect relationships on which the innovation technology is based (Rogers 2003). Innovation characteristics also includes the consumer's perception of the innovation's *relative advantage* (benefits of innovation compared to existing solutions), *compatibility* (is it consistent with current values and needs of the adopters?), *complexity* (is it hard to understand and use?), *trialability* (can it be tested before adopted?), *observability* (do others see the outcome of the innovation?)  (Rogers, 2003).

*Characteristics of the consumer* refer to attributes of the people exposed to the innovation, the potential adopters. These attributes are often divided into socio-demographic attributes and psychographics attributes. Multiple studies conclude that psychographics such as innovativeness, opinion leadership, media proneness and product involvement are better indicators of predicting consumers' response to innovations than socio-demographics, such as age, education and income (Rogers, 2003; Arts et al., 2011). In his diffusion of innovation theory, Rogers (2003) categorize consumers into psychographic segments based on the consumer's level of innovativeness. Innovativeness is the degree to which an individual or other unit of adoption is relatively earlier in adopting new ideas than the other members of a system. Rogers call these psychographic segments Adopter categories and label them as *innovators*, *early adopters*, *early majority*, *late majority* and *laggards* (Rogers, 2003).

It is of great importance that a manager involved with marketing of innovations understand why a consumer adopt to new services, since they then can decrease the chance of an unsuccessful market launch (Arts et al., 2011).

## 2.8 FROM EXPLORATORY TO CONFIRMATORY

There is rather extensive literature written on the definition of services (e.g. Vargo and Lush, 2004; Bitner et al., 2008), the difference in the marketing of services versus products (e,g. Zeithaml et al., 1985; George and Berry, 1981), the perception of the service and communicated value (e.g. Vargo and Lush, 2008; Gollwitzer, 1999) and the importance of the relationship between the sender and receiver of information in the communication of services (e.g. De Pelsmacker et al., 2010; Colliander and Dahlen, 2011).

However, little attention has been paid to test these theories applicability in the context of service innovations. This is surprising because, as Berry et al. (2006) clearly identifies, these novel services are often challenging some of the theoretical assumption regarding marketing of services. This calls for a questioning of the applicability of the related theories in regards to consumer response. It creates a growing academic blind spot because of the rapidly growing usage of new digital services (Statista, 2016). Figure 2 illustrate the gap of established theories within the marketing of service innovation.

SERVICE MARKETING &
COMMUNICATION THEORY

CONSUMER
RESPONSE

RESEARCH GAP

CONTEXT OF SERVICE INNOVATIONS
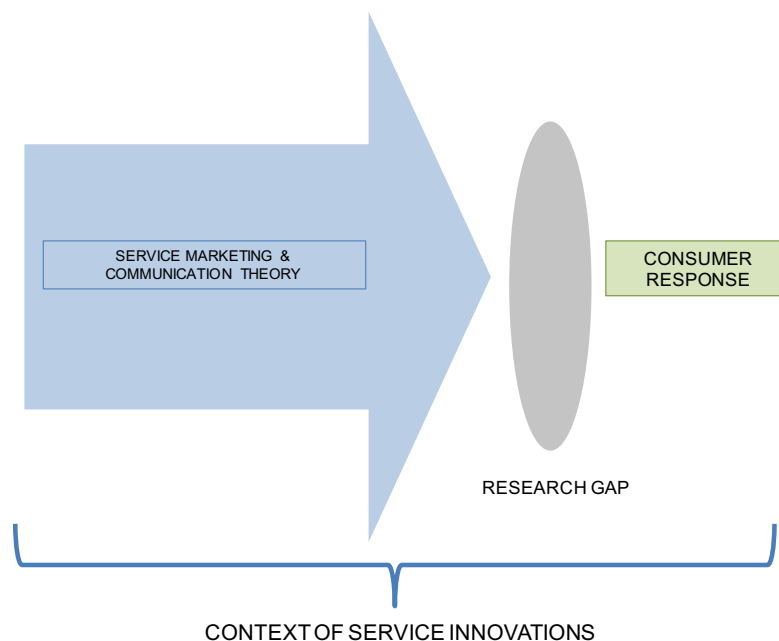
FIGURE 2 IDENTIFIED RESEARCH GAP

While developing our theoretical framework, visualized in figure 3, the objective was to extend the service marketing research body through analyzing the existing theories applicability within marketing of a service innovation. Through insights generated by our exploratory research, presented in section 4.2.5 and matching towards existing research, we were able to identify three theoretical concepts of particular importance to the case of automated investment services; Knowledge, Value propositions and Corporate credibility. These three areas were tested in the confirmatory study.

| EXPLORATORY THEORETICAL AREAS | CONFIRMATORY THEORETICAL CONCEPTS | |
|---|---|---|
| CHARACTERISTICS OF CONSUMER | KNOWLEDGE | ADOPTION INTENTION |
| PERCEPTION OF SERVICE ATTRIBUTES | VALUE PROPOSITIONS | |
| RELATIONSHIP SENDER/RECEIVER | CORPORATE CREDIBILITY | |
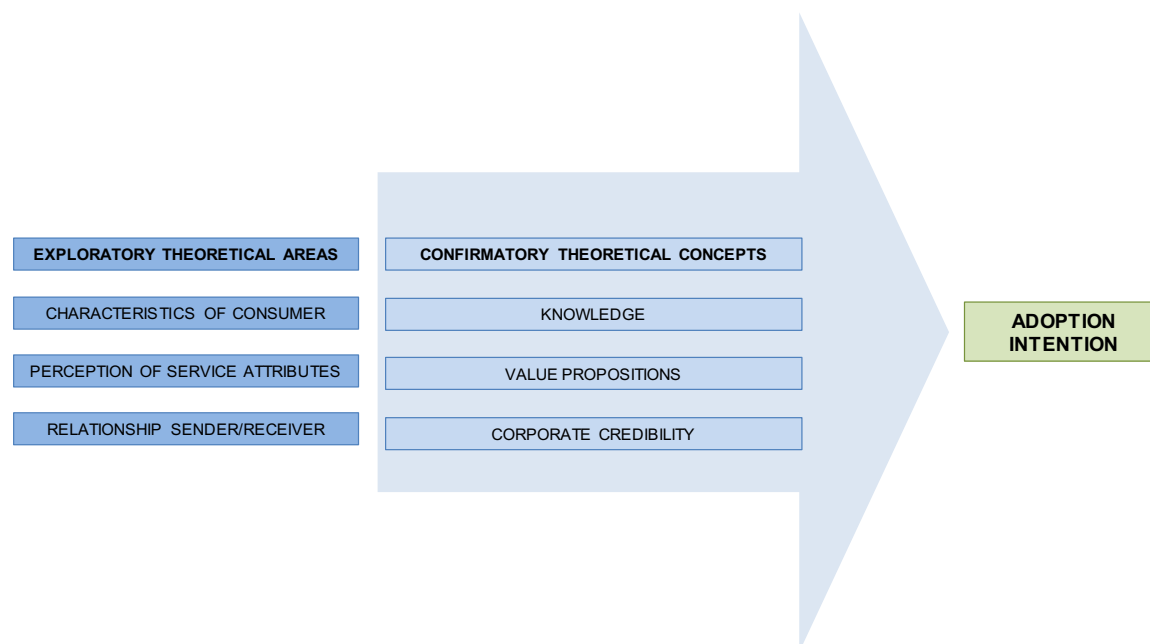
FIGURE 3 THEORETICAL DEVELOPMENT

*From the the theoretical review we found that there are several factors that seem to affect the innovation adoption of a service innovation such as characteristics of consumer, perception of service attributes and relationship between sender and receiver. Through our exploratory research, we narrowed the theoretical scope to focus on the concepts of knowledge, value proposition and corporate credibility. We now turn to the design of our mixed-method study.*

# 3. RESEARCH DESIGN

*This chapter intends to briefly describe the general research design for our thesis. Since the study has been conducted through two sequential steps, each method is more thoroughly described in each respective section. Therefore, the objective of the sections in this chapter is to motivate the choice of our overall research design, choice of case-study and briefly describe the chosen case company.*

## 3.1 RESEARCH APPROACH

Automated investment services are one of the emerging trends within FinTech, which in turn is growing rapidly. Because of the novelty of FinTech, limited amount of research has been conducted and in many cases the main focus has been directed towards the algorithms behind the services. Due to this, we early realized the necessity of an explorative research design in order to fully understand the service and most importantly the implications derived from these kind of services.

For an explorative study, a qualitative approach is often preferred since unexpected issues might arise in nascent areas and thus hypothetical relations should be avoided (Edmondson and McManus, 2007). However, during our exploratory study we early on came across interesting findings connectable to relevant theories and decided to test our conclusions through a confirmatory research. This approach goes well in line with Bryman and Bell (2011) who states that a qualitative research is a good source for formulating hypothesis that can be tested further by using a quantitative study.

Since both a qualitative and quantitative study have been conducted, we have used a mixed-method research design. We chose to conduct our two researches subsequently rather than mixing the approached through the overall research, a so-called mixed-model approach (Johnson and Onwuegbuzie, 2004). One reasoning justifying this is the importance of having a thorough and in-depth analysis of the qualitative study before the findings are empirically tested (Creswell et al., 2008). Therefore, we completed a comprehensive analysis of our qualitative data and chose to continue with our most relevant findings as a foundation for the quantitative research.

The mixed-method approach moves beyond the view that either a quantitative or a qualitative research should be used and instead proposes that the studies act as complements to each other and thus lessen the weakness of each method as a single approach. There are also several additional advantages of using a mixed-method research

design. Some of these are that the results can become more generalizable and hence increase the validity, it also becomes legitimate to use several approaches to answer research questions and thus reduces dogmatism. The drawbacks with a mixed-method approach is mainly that it can be time consuming, more difficult as well as more complex since the methodology for both a quantitative and qualitative approach needs to be possessed (Johnson and Onwuegbuzie, 2004). Since the weaknesses of our chosen research design mainly has an individual effect and the strengths are multiple, we were convinced that this was the most suitable design for our selected research area. Especially since this gave us the opportunity to give concrete managerial recommendations for practitioners within automated investment services.

## 3.2 CHOICE OF CASE-STUDY

The aim with our thesis is to understand how an automated investment service should be marketed in order to drive the consumers' intention to use it. Automated investment services in a novel service field and due to its predicted growth it is an industry facing several challenges and upcoming changes. In order to fulfill our objective in this nascent area, we chose to use a case study. According to Yin (2014), a case study is a suitable method when the research fulfill the following criteria's: 1) The research question is including a "how" or "why", 2) A contemporary issue is examined, and 3) the researchers has little control over the behavioral events. All of these correspond to the chosen research question and study field, and thus motivate the chosen approach.

As Yin (2014) acknowledge the selection of the unit of analysis is of importance within case studies. Our chosen unit of analysis is the automated investment service itself. However, since these services are driven by algorithms which can be hard to understand from an external perspective, we saw the need to gain an internal perspective. Thus, we examine our selected unit of analysis through an organization, which will be referred to as our case company. This gave us the advantage to understand the internal perspective and relation to the automated service innovation as well as the service effects on their user base.

While selecting our case company, we had criteria by which we evaluated different corporations active in the field of automated investment services. The company needed to 1) have a high grade of algorithm-usage as a part of the business idea, 2) have a customized service-offer to each customer, 3) offer an innovative service in an established industry, 4) be located in Sweden. Based on these criteria, the company Pensio was selected as a case company for our thesis.

## 3.2.1 DESCRIPTION OF PENSIO

After a thoroughly investigation of the financial sector in Sweden, Pensio was chosen as a case company for our thesis. Since the company has chosen to be anonymous, Pensio is a fictional name and used to enhance the readability of the thesis.

Pensio was the company who apart from fulfilling all the criterions also met the requirements better than any other organization since their entire company is built around their algorithms, they offer personalized recommendations to each user and are challenging the traditional pension advisory industry. Pensio is a Swedish company, operating in the field of automated investment services, focusing on pension savings. Their business idea is to offer personalized and automated investment advices based on the user's demographics and risk profile, without any human interaction. This service is sometimes referred to as "robo-advisory" in mass media. It is an innovative service since the service traditionally has been performed through a human advisor. Thus, apart from making the advisory process automatic, they have been able to digitalize the service and take away the face-to-face interaction between the user and the service provider. Referring to the characteristics of services mentioned in the Theoretical background, Pensio offer a service innovation by making the service production and consumption separable (Berry et al., 2006). Through their software based service, they can cut costs significantly and make wealth management accessible to a larger portion of the population. Based to their innovative service solution and significant user base growth, we found Pensio to be a perfect case company for the purpose of our thesis.

Pensio operates through a 'business to business' business model, visualized in figure 4. They primarily sell their service to employers, who then offer Pensio's service to their employees as a corporate benefit. The employer is the customer/client and the purchase decision maker but the employee at the company is the user of the service and thus the usage decision maker. As Pensio is offered as a company benefit through an employer, the employees face no cost by starting to use Pensio and they are free to use the service. Even if the service is sold B2B, all the material Pensio receive about the user is kept confidential and not shared with the employer. Pensio's objective is to reach the highest possible usage penetration within the employee group as the variable cost of additional users is very low, and a higher penetration illustrates a higher value generation by Pensio to the employer. Even though it is a free service to the employees, it is a challenge for Pensio to get employees to start using the service due to various reasons that we will elaborate on in this thesis. Pensio's business model is different compared to the majority of their competitors as they charge a fixed monthly fee instead of charging a commission on the allocated capital

from the receiving mutual fund manager. However, in both business models, the user does not face any upfront costs[1].
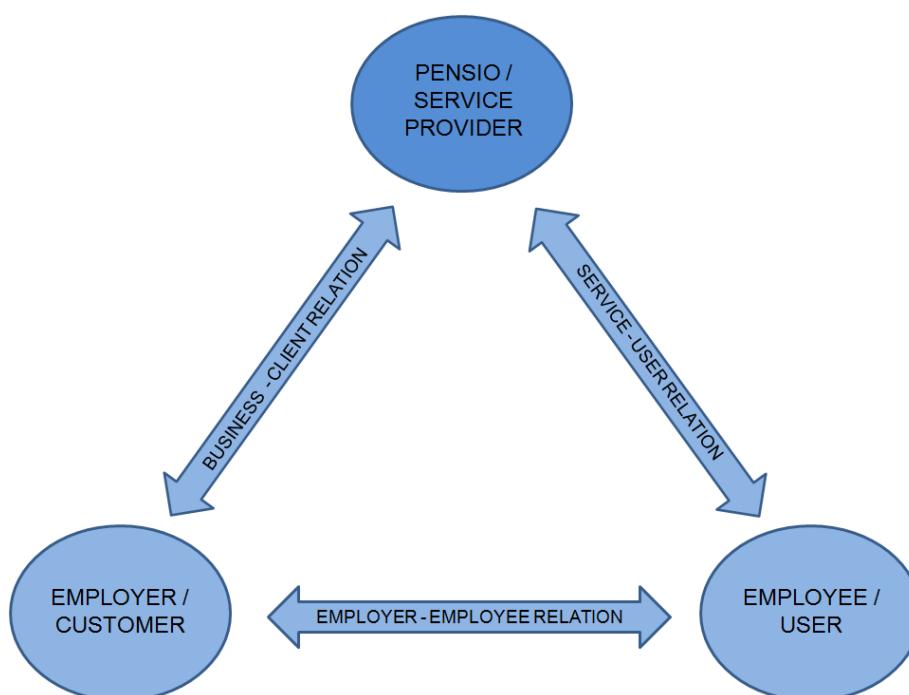


FIGURE 4 PENSIO BUSINESS MODEL

*This section has discussed the choice of a mixed-method design and case study approach. The chosen case company Pensio has been described and specifically their existing business model. With this in mind we will now continue with the exploratory study.*

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[1] However, in the commission based business model, the user often pays a significant amount indirectly to the advisor through the commission. The legitimacy of the commission based business model is currently under review by legal entities in the European union:
http://www.privataaffarer.se/borsguiden/fonder/finansinspektionen-vill-ha-provisionsforbud-for-radgivning-841679

# 4. EXPLORATORY STUDY

*Chapter four will present the exploratory study. First the methodological choices for this qualitative study will be described. It will be followed by a presentation of the results and an brief analysis. The section concerning results and analysis are divided into three parts, structured according the the themes identified in the empirical data.*

## 4.1 METHODOLOGY

In this section, we will describe the methodological choices made in the exploratory research part of this thesis. We start by explaining our research method and how this will help us answer the research question, we proceed by explaining our data collection process and the subjects that we interview. We conclude by describing our method of analysis. Limitations of the exploratory research will be presented together with the general limitations in the concluding chapter (7.3).

### 4.1.2 RESEARCH QUESTION AND APPROACH

As previously noted, there is a research gap in the available literature regarding the relationship between marketing communication and service innovations. This gap is specifically tangible in the developing field of FinTech. Our general research question for this section was:

*Which are the major consumer marketing implications within automated investment services?*

As there is limited existing research available within this research area, our objective was to identify what marketing challenges that currently exists and what questions that needed answers. We identified Pensio as a suitable case for an explorative study to meet this objective. We chose a qualitative research method due the need to get elaborate contextual descriptions from the people with experience from Pensio's communication process and user interaction. The choice of method was based on the research question and how to best tackle it (Sandberg, 2005).

As the objective in this research phase was to identify and understand potential factors impacting the effectiveness of the communication and not to draw generalizable conclusions, a qualitative method is the recommended choice (Guba and Lincoln, 1994).

## 4.1.2 DATA COLLECTION - INTERVIEWS

The objective in this research phase was to explore factors and challenges in the marketing communication of a service innovation. We concluded that in-depth interviews was the most suitable research method in this phase as it enabled us to get a deep understanding of this complex process and to get a nuanced perspective on the communication and usage of the service from multiple stakeholders (Easterby-Smith et al., 1991).

Based on our exploratory research objective and the complex, multifaceted research topic, we used a semi-structured interview process by asking our interviewees predetermined but open-ended questions (Ayres, 2008). This method allowed us to keep the interviews within the frame of the research area but remain flexible to explore relevant factors in nearby areas and topics as they appeared during the interviews through asking follow-up questions (Bryman and Bell, 2011).

The interview questions were inspired by the research presented in the theoretical background but as the objective with these interviews was to explore and not to confirm existing theory, we were careful to avoid any response bias by direct framing and cueing of the interviewees (Yin, 2014) This was done by excluding any theoretical concepts in the interview questions. To ensure interpretive validity, we avoided leading questions (Ayres, 2008).

As the objective with this gain a more complete perspective of all relevant factors in the communication process and get a deeper understanding of the situation, we included both Pensio employees and Pensio users in the interview sampling. Two different interview guides were applied towards these interview groups because of their difference in knowledge and perspective on the process. The findings from the interviews with Pensio employees was utilized and further investigated in the interviews with the Pensio users.

We applied a question-based interview guide and structured the questions according to related topics. The interviews with Pensio employees was focused on internal perspectives on the service, knowledge about existing and potential users, recurring communication situations and communication objectives. We also included role specific questions relating to each participant's role within the company to gain additional insights. The interview guide used towards Pensio users was focused on the user's general knowledge and behavior within the service area, their Pensio user behavior and motives and their experience from Pensio's communication. By using a questions-based interview guide, we could easily include follow-up questions and ask for explanations, which likely gave us more comprehensive data and a deeper understanding (Morgan and Guevara, 2008).

Interviews were conducted in person or via telephone, depending on the distance to the interviewee. Pensio employee interviews lasted approximately one hour, while the Pensio user interviews lasted approximately 20-25 minutes. All interviews were conducted in Swedish. The applied interview structure is seen in figure 4 and interview guides are to be found in appendix B.

| Employee interview structure | User interview structure |
|---|---|
| Interview Introduction | Interview Introduction |
| Background questions | Background questions |
| Internal Service Perspective<br>- Function, benefits and value<br>- User charecaristics<br>- Market understanding | General Knowledge within Pension and Digital |
| Communcation<br>- Processes<br>- Messages<br>- Objectives | Usage and Perception of service |
| Role specific questions | Impression of communication |
| Closing of interview | Closing of interview |

FIGURE 5 APPLIED INTERVIEW STRUCTURE

## 4.1.3 SELECTION OF INTERVIEWEES

The research focus in this phase was to identify important factors in the communication between the service provider and the user. We started through investigating the firm's internal perspective by conducting interviews with key employees at the firm. We selected the interviewees based on their experience with user interaction and general user knowledge. All firm internal interviewees had been working more than two years at the firm, which we judged to be a sufficiently long time to make accurate descriptions of factors influencing the firm-user communication. This sampling selection is described as a *purposive sampling based on a intensity criteria*, highlighting that the interviewees were chosen based on their potential to provide relevant data because of their engagement in a specific process (Patton,

2002). Purposive sampling is suitable when the objective of the research is to gain increased understanding of a certain topic (Easterby-Smith et al., 1991).

In the second round of interviews, we interviewed three active users of the service. These persons were identified through collaboration with the customer support team at Pensio. The interviewees were heterogeneous in most demographics aspects (gender, education, age) but they shared a rather unified perspective on the service in most aspects. The rather low variance in data supported the smaller sample size (Rapley, 2014).

This structure gave us both a firm internal and external perspective on the important aspects of the service provider-user interaction. A breakdown of internal interviews is shown in tables 1 and external interviews in table 2. Important to note is that the interviewees names are not their real ones in order to ensure the interviewees anonymity.

| Interviewees | Years within firm | Interview date |
|---|---|---|
| CMO | 2 | March 1, 2016 |
| Founder & CEO | 9 | March 8, 2016 |
| Customer Support | 8 | March 16, 2016 |

TABLE 1 INTERNAL INTERVIEWS

| Interviewees | Age | Role/Team | Industry | Years with Employer | Years as Service User | Interview Date |
|---|---|---|---|---|---|---|
| Anna | 48 | Sales | Energy | 27 | 4 | April 1, 2016 |
| Lars | 54 | Risk Manager | Energy | 16 | 5 | April 4, 2016 |
| Peter | 43 | Customer Care | Energy | 9 | 4 | April 4, 2016 |

TABLE 2 EXTERNAL INTERVIEWS

## 4.1.4 ANALYSIS OF EXPLORATIVE DATA

### 4.1.4.1 IDENTIFYING THEMES

As the objective with the semi-structured interviews was to explore factors of relevance for the specific interview subject and enable deviations from the interview guide questionnaire, the verbal data from the interviews were transcribed in full and not selectively as we aimed to capture all potential aspects. The transcribing was conducted by the researcher that did not lead the interview.

The interview transcripts were analyzed using inductive thematic analysis, through which we identified and structured patterns in the data. These patterns were then organized into themes. An inductive thematic analysis method is suitable when identifying and highlighting patterns within rich data sets, without a specific theoretical or analytical interest (Braun and Clarke, 2006), which was the case regarding our interviews. In our analysis, we included

both semantic and latent themes as the level of clarity in the data varied between interviewees (ibid.). Despite using an exploratory research approach and an inductive method, we aimed for representativity of the user group in the data and we reached saturation in our coding, despite the rather small sample size. This was likely due to the rather narrowly framed research context under study (Saumure and Given, 2008).

Both researchers conducted an individual analysis of each interview. The individual findings were then compared and merged to ensure a mutual understanding and a unified perspective on each theme (Miles & Huberman, 1994).

The identified themes were not categorized or sourced in accordance with a pre-set theoretical framework. As the objective in this phase was to identify all potential relevant factors, we wanted to avoid potential framing from findings in earlier research.

## 4.1.5 QUALITY OF THE STUDY

### 4.1.5.1 CREDIBILITY

The main threat to the credibility of interview data is the observation process itself. The credibility is dependent on the both interviewer's ability to avoid interjecting personal perspectives and  the interviewee's ability and willingness to openly share information (Thyer, 2010). Our solution to these issues was to keep a neutral position and use open-ended questions. To ensure the highest level of trust and openness from the interviewees, all interviews started with a clear statement that the information and any citation would be kept anonymous.

### 4.1.5.1 VALIDITY

In agreement with Thyer (2010), the objective for our in-depth interviews was to identify experience or generate hypotheses and not to test them. Thus, the generalizability of the study findings, or external validity, was not a major consideration in this stage of the study.

## 4.2 RESULTS & ANALYSIS

Introducing a service innovation is a challenge. In this section, we will present the results from our interviews and discuss them in relation to the previous related research, presented in the literature review. Through analysis, we will identify and present the dominating factors in the communication process of automated investment services. The findings will be further investigated in the next section of this thesis. Quotes from the participants are used to highlight and exemplify our findings. The interviews were held in Swedish and the quotes presented in this section have been translated from Swedish to English by the authors to

enhance the readability of the thesis. To avoid mistakes and biases in the translation, both authors discussed and mutual approved all translations.

## 4.2.1 SENDER CHARACTERISTICS

Pensio is available and marketed to employees that work for an employer who has approved and purchased Pensio's service as an employee benefit. Pensio communicate both directly to the potential users through email, handouts and meetings, as well as indirectly through the employer's own communication channels. All of the interviewees, both Pensio's internal employees and the users, referred to this structure as an important factor in the adoption processes which are seen in table 3 below.

| Perspective | Name/Role | Day of interview | Sender Characteristics | Quote |
|---|---|---|---|---|
| Internal | Founder & CEO | March 8, 2016 | The **relationship between the employee and employer** is highlighted as a major factor impacting the adoption of the service. | "So basically, I believe that one of the reasons is that you have received an ok from your employer, confirming that this is a good thing. That is the major reason" |
| Internal | CMO | March 1, 2016 | The **relationship also influence** how well the **message regarding Pensio's service** was received amongst the employees. | "...some employees have such a great relationship to their employees, and then it is super effective" |
| External | Anna, 48 | April 1, 2016 | The employer's **corporate size** is a factor that can **impact the evaluation** of Pensio and can lead to an increased perceived reliability of the service. | "Because then it feels reliable. I would not think that a big company like the one I am working for would collaborate with an organization that wasn't serious" |
| External | Lars, 54 | April 4, 2016 | A greater emphasis on the **employer benefit** and the fact that it was a free service for the employee. | "The crucial reason was that my employer offered it" |

TABLE 3 EMPIRICAL RESULTS FOR SENDER CHARACTERISTICS

### 4.2.1.1 ANALYSIS OF SENDER CHARACTERISTICS

In the current business model, the employers become informal intermediaries of Pensio's communication. Through this structure, the relationship between the employees (Pensio potential users) and their employer (pensio's customer), influence how the employees respond to the information regarding Pensio's service. It was confirmed by some Pensio users that the trust they had in their employer had had an impact on their initial evaluation of Pensio. Further, it was confirmed by the Pensio employees that they perceived their

communication to have a higher impact rate within companies who had better relationship with their employees, measured as numbers of sign-up requests.

Earlier research (Arts et al. 2011; Ostlund, 1974) have identified the perceived uncertainty of an innovation to be a major factor impacting the adoption intention. Thus, factors that impact this perceived uncertainty will impact the adoption intention. *The relationship between employer and employee will impact the adoption intention for employees.* This gives an indication that the sender of the information has an impact on the adoption intention as it affects the uncertainty regarding the innovation.

Additionally, by being able to use the employer as an intermediary, Pensio can communicate to their potential users through an existing network relation (the employer), something that De Pelsmacker et al. (2010) acknowledge as highly relevant when communicating quality services such as investment advisory. This finding is also related to the statement by Colliander and Dahlen (2011) that source credibility is a major factor in persuasion.

## 4.2.2 COMMUNICATION AND FRAMING OF SERVICE

All Pensio's employees acknowledged the challenges related to communicating the services functional and the value that it can generate to potential users, which is elaborated in table 4.

| Perspective | Name/Role | Day of interview | Communicating value | Quote |
|---|---|---|---|---|
| Internal | CMO | March 1, 2016 | Since retirements savings become accessible after 20 to 30 years the **sense of urgency becomes diluted** and indirectly be classified as a **"low interest" service.** | "But we got to make them act now on something that is so far ahead in time. I believe that this is a low interest service" |
| Internal | CMO | March 1, 2016 | Pensio saw **challenges in communicating** a suitable level of detail while communicating to potential users. One belief was that a **simplified message was more efficient** than an elaborate message. | "I have the feeling that we shouldn't mention so much about the service when we are communicating directly to the employees, instead it should be more like, here you go, it is good and it is simple" |
| Internal | Founder & CEO | March 8, 2016 | When asked about the **user value the investment method was addressed** and how the unbiased position would generate a superior portfolio return for the users. | "Pensio helps the employee to manage his/her pension capital in the best possible way" |
| Internal | Customer Support | March 16, 2016 | Also **reflecting the value perspective** of the investment method. | "Pensio is an investment advisor who helps customers with all their pension insurances; private, new and old, and public pensions" |

TABLE 4 EMPIRICAL RESULTS FOR COMMUNICATION AND FRAMING OF SERVICE

### 4.2.2.1 ANALYSIS OF COMMUNICATION AND FRAMING OF SERVICE

Close to all of Pensio's communication challenges are echoed throughout the previously reviewed theories relating to marketing of service innovation. Pensio struggles with finding a way of communicating the benefits of their service but also reduce the perceived complexity of their service. From a service marketing perspective, Zeithalm (1981) clearly acknowledge that the characteristics of services makes it harder for consumers to evaluate services than products. From an innovation adoption perspective, Rogers (2003) identify the perceived complexity of the innovation to be a factor on adoption intention.

Further, the distance between the service usage and the result of the service makes it hard to test the quality of Pensio's service. It is possible to test Pensio with the objective to evaluate its user interface, its process and its customer support but not the performance of

its advice. This nature of the service provides low trialability and observability for potential users, which impacts innovation adoption negatively (Rogers, 2003).

The perspectives of the main benefit to its users differed between Pensio employees and Pensio users. While the users emphasized the automated usage and communication process, the internal perspective was focused on the scientific investment method.

We argue that it is fair to assume that there are substantial differences in knowledge between the two groups of interviewees and that this difference might explain the different perspectives. The perceived value of an automated investment service might be dependent on the evaluators previous experiences from similar services. De Pelsmacker et al. (2010) argued that the relative advantage of innovations compared to existing solutions should be communicated in the introduction phase. Given that relative advantages are prioritized differently between company and user perspective; this could impact the influence of the communication negatively.

It was observed that one of the users had not used other advisory services prior to adopting Pensio. This means that Pensio is creating a market, which is well in lined with De Pelsmacker et al. (2010) finding that building category need is a key objective in the introduction phase.

## 4.2.3 CHARACTERISTICS OF RECEIVER

Pensio employees argued that the potential users existing knowledge about finance and retirement savings were highly varied and that this had a significant impact on their service adoption. This internal perspective was not reflected in the user interviews as illustrated in table 5.

| Perspective | Name/Role | Day of interview | Characteristics of receiver | Quote |
|---|---|---|---|---|
| Internal | Customer Support | March 16, 2016 | A potential user with **strong knowledge about finance** and savings would **better understand the value** generated through Pensio, such as the commission free business model | "They who have some knowledge buy it on the condition that we do not charge any commission" |
| Internal | Customer Support | March 16, 2016 | **Low knowledgeable** users use Pensio because they are **not given advices otherwise**. They don't have the same understanding for the value proposed. | "However, the employees often have low knowledge, which means that they buy the service on the condition that they actually get some kind of advice regarding the retirement savings portfolio." |
| External | Anna, 48 | April 1, 2016 | The **perceived value** from one of the low knowledgeable **users** rather illustrate the **automation of Pensio as the main benefit**. | "Uninterested might be the wrong word as I did sign up for Pensio. I guess I do not have adequate interest to engage in my own retirement savings, so I thought it was convenient to have someone else to do it for me." |
| External | Peter, 43 | April 4, 2016 | Another low knowledgeable **user** stretching the **value to receive help** from a more someone more competent | "I see pension advisory as important but I rather get help from people that are knowledgeable in the area since I don't have the knowledge myself" |

TABLE 5 EMPIRICAL RESULTS FOR CHARACTERISTICS OF THE RECEIVER

### 4.2.3.1 ANALYSIS OF CHARACTERISTICS OF THE RECEIVER

The interview data indicate inconsistencies regarding the role of the potential users' previous knowledge/expertise within the service area (in this case, personal finance) and how it affects the service adoption intention. From the internal perspective, the user's previous knowledge was assumed to be a major factor that impacted both the user's attention to the communication, the perception of the service and the motives for usage. From the internal perspective, low existing knowledge within personal finance would translate

into a low adoption intention for Pensio. The research literature frequently acknowledges the role of consumer characteristics as a key factor in innovation adoption. In this study, knowledge within the related service areas (e.g. personal finance) was the main user attribute that appeared. This user attribute can both be related to *Education*, a socio-demographic attribute, and to the concept of *Product Involvement*, which Arts et al. (2011) define as *"The degree to which a consumer experiences differentiation, familiarity, importance and commitment for a specified product category, not brand.".* Education and Product Involvement both have a positive impact on consumer adoption intention, with *Product involvement* being the major driver (Arts et al. 2011).

However, when analyzing the interview data from the actual users, the picture became less clear regarding the role of knowledge. For example, two users were referring to their low knowledge as the actual reason for adopting the service and not as a barrier to usage. This data makes it fair to question the internal perspective on knowledge on personal finance as an important attribute consumer user for the adoption.

Furthermore, all users did state that they often shopped online and were frequent users of mobile banking and payment solutions. This consumer behavior can be seen as an indicator of the consumer attribute *innovativeness*, which can be defined as *The general propensity of a consumer to adopt new products* (Arts et al. 2011). This attribute could also be defined as Knowledge within usage of mobile applications or services.

## 4.2.4 CONCLUSION FROM THE EXPLORATORY RESEARCH

The objective of the first part of this thesis was to explore the major factors to consider when marketing an automated investment service, i.e. a financial service innovation. To achieve this, in-depth interviews were held with both employees and users of an automated investment service called Pensio. Through our analysis we identified three important findings visualized in figure 4. The first key aspect to investigate is the relationship between the potential users and the intermediary through which the service is facilitated or communicated (1). Further, we found that the characteristic of the service such as complexity and trialability was enlarged due to the nature of the financial industry. This lead to the conclusion that the framing and presentation of the service innovation through communication is an important factor for further investigation (2). Additionally, we saw that the relationship between the user's knowledge in primary and related service areas was a dominating factor to consider (3).

FIGURE 6 EXPLORATORY FINDINGS
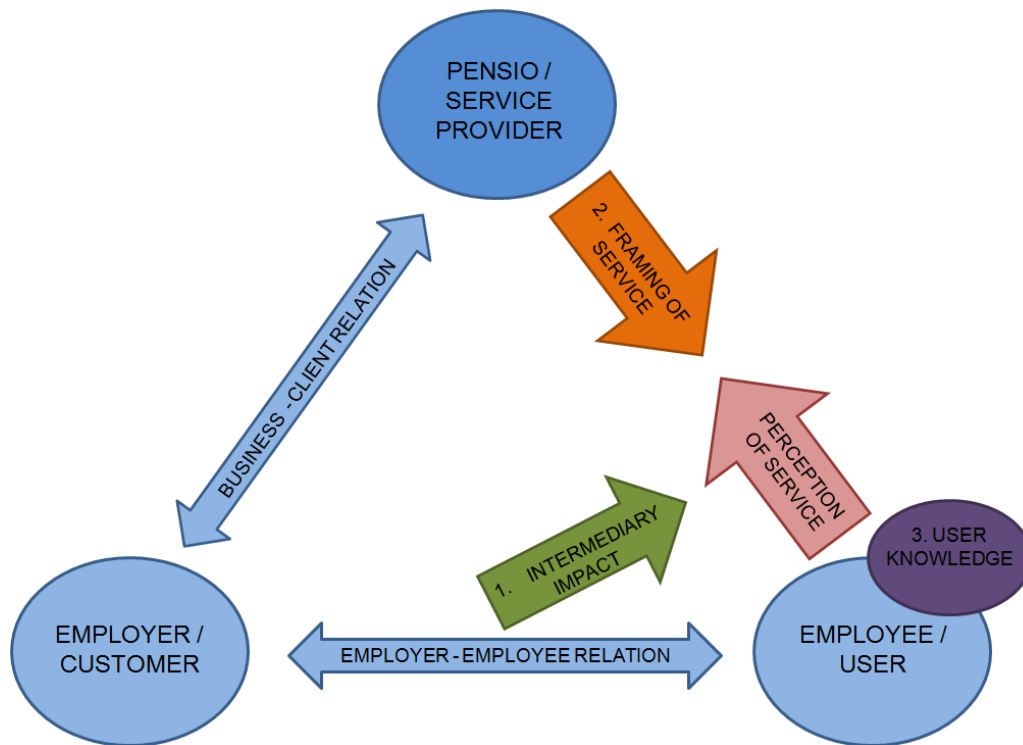
*The explorative study led to three important insights concerning the marketing implications for an automated investment service. We found that sender characteristics, the communication and framing of the service, and the characteristics of the receiver could effect the user's intention to adopt the service. We will bring these findings forward and test them through a confirmatory study.*

# 5. CONFIRMATORY STUDY

*Chapter five will present the confirmatory study. Within this chapter the hypotheses formulated based on the exploratory research findings and established theories will be presented. It will be followed by a methodology section describing the quantitative experiment that has been carried out. Finally, the hypotheses will be tested and discussed in the results and analysis.*

## 5.1 PRESENTATION OF HYPOTHESES

In our theoretical framework we found that a consumer's innovation adoption is affected by several factors such as characteristics of the adopter and perceived characteristics of the innovation (Meuter et al., 2005; Rogers, 2003). We aim to believe that there are more unexplored factors that will affect the consumer's innovation adoption such as the highlighted areas of source credibility, value propositions and prior knowledge. This was the foundation for our research question first presented in section *1.2 Purpose and Research question:*

> *To what degree does corporate credibility, value proposition and user knowledge drive consumer adoption intention of a service innovation within the financial industry?*

In order to give an extensive answer to our second research question we had to break it down into several testable hypotheses. These will after motivation from our theoretical framework and explorative data be presented further on in this section.

### 5.1.1 SENDER OF INFORMATION AND MESSAGE

In the explorative data we found strong indications that one main reason why consumers chose to adopt to the innovation was because they trusted the source presenting the new service. The influence of the source was also supported by Pensio's employees who clearly saw indications that they had a higher impact rate at companies with a better relationship to their employees.

When seeking answers in the literature it has been seen that in several situations credible sources are perceived to be more persuasive than low credible sources (Dholakia and Sternthal, 1977; Harmon and Coney, 1982). The importance of a credible source has also been proved in corporate circumstances where corporate credible alone has influenced the purchase intention (Lafferty and Goldsmith, 1999). Thus, we would like to explore whether the same relationship exists between corporate credibility and innovation adoption, which leads us to our first hypothesis:

**H1: A high credible source will have a greater positive impact on the innovation adoption than a low credible source**

Another important issue stressed in the explorative data was how Pensio struggled to find a way to communicate the benefits of their service in a compelling way. In relation to this, there was also an inconsistent view of what value employees at Pensio thought they delivered and what their users perceived as the main benefit. From a theoretical perspective this would indicate that Pensio have not yet found a value proposition with a strong connection to the customer's need. By presenting a more consumer centric value proposition the actual value can become more tangible (Anderson et al., 2006) Since the intangibility of the service is one reason why consumers' find it harder to evaluate services and more rapidly adapt to innovations in goods (Zeithaml, 1981), the increased tangibility would logically affect the adoption intention positively. Based on this foundation, we would like to present our second hypothesis:

**H2: A more consumer-centric value proposition will have a greater positive impact on the innovation adoption than a less consumer-centric value proposition**

Even if we aim to believe that both the value proposition and corporate credibility will affect the innovation adoption in isolation, one of them would reasonably have a greater effect on the innovation adoption. While considering the situation for Pensio, it would not be valid to assume that all their business customers have the same relation to their employees, which is emphasized in the explorative empirical data. Nevertheless, they still have users from a wide range of companies.

Theoretically a value proposition consists of the benefit and perceived cost (Ballantyne et al., 2011), where importantly a more beneficial proposition, in comparison to the competitors, can increase the consumers' reason to select the service (Anderson and Carpenter in Yavari et al., 2016). Since a credible source rather increase the persuasiveness of the message (Dholakia and Sternhal, 1977; Harmon and Coney, 1982) than convey a more tangible value (Anderson et al., 2006), we aim to believe that value propositions is of greater importance for the innovation adoption of services. Thus, we propose our third hypothesis:

**H3: A consumer-centric value proposition will have a greater positive impact on the innovation adoption than a high credible source**

## 5.1.2 CHARACTERISTICS OF ADOPTER AND MESSAGE

While talking to employees at Pensio, we saw beliefs that knowledge within finance and retirement savings would have an impact on the service adoption. Some of the research

streams examining knowledge states that high prior knowledge is an advantage when faced with new products (Gregan-Paxton et al., 2002). Building on the notion that knowledge within pension savings would impact the service adoption, Pensio's users would to a greater extent have a good knowledge in the field of pensions. However, this was not the case while talking to their consumers', where some said that a reason to use the service was because they didn't have the required knowledge about pensions. Instead we found reasons to believe that their knowledge in the digital field would be one of the adoption reasons. We looked at one of the definitions of Financial Technologies from Wharton, which stated: "*an economic industry composed of companies that use technology to make financial systems more efficient*". Thus, a financial technology innovation will consist of both a financial service and a digital/technological factor which suggests that either knowledge within pension or digital innovation would be of relevance.

One way to understand how knowledge is transferred is through analogical learning, which suggest that knowledge move from one domain (the base) to another (the target) (Gregan-Paxton and John, 1997). The first step in this knowledge transfer process is accessing the base domain (Anderson and Thompson, 1989), which through marketing can be used to trigger that the right information is accessed (Gregan-Paxton and John, 1997). Since a value proposition is a firm's connection to their consumers' (Holttinen, 2013), it could be used to give the consumers' cues on what knowledge that should be accessed (Gregan-Paxton and John, 1997). Hence, if a value proposition is emphasizing a greater digital benefit, knowledge within the digital field would be triggered.

By connecting this reasoning to that of prior knowledge, Wood and Lynch (2002) suggest that individuals with high prior knowledge perform better when products are perceived as more new, which many financial technologies, including Pensio, are. Furthermore, they suggest that the relationship between prior knowledge and innovation adoption would be of interest to study. Building on the notion that by triggering the right cues through the right value proposition, a certain knowledge base can be accessed (pension or digital). If this knowledge is high, it can be used to understand the new service (Pensio), leading to an increased innovation adoption. This leads us to our two final hypotheses:

**H4: High prior pension knowledge will positively influence the innovation adoption when the value proposition is framed more traditional for pension advisory**

**H5: High prior digital knowledge will positively influence the innovation adoption when the value proposition is framed more digital innovative**

## 5.1.3 SUMMARY OF HYPOTHESES

Table 6 present a summary of the hypotheses with their theoretical and empirical support.

| Exploratory findings | Theories | Hypotheses |
|---|---|---|
| Influence and relation to the employee had impact on the user's intention to use the service. | **Corporate Credibility** (e.g. Lafferty and Goldsmith, 1999) | **H1:** A high credible source will have a greater positive impact on the innovation adoption than a low credible source |
| Inconsistent views on what the value offered to the consumers were. Internal focus on the technicalities and external on the ease of user | **Value Propositions** (e.g. Anderson et al., 2016; Yavari et al, 2016) | **H2:** A more consumer-centric value proposition will have a greater positive impact on the innovation adoption than a less consumer-centric value proposition |
| Pensio's existing users don't have the same relationship to their employees but they still use the service | **Value Propositions and Source Credibility** (e.g. Dholakia and Sternhal, 1977; Yavari et al. 2016) | **H3:** A consumer-centric value proposition will have a greater positive impact on the innovation adoption than a high credible source |
| Internally prior knowledge within retirement saving was believed to affect the intention to use. Externally prior digital knowledge seemed to have an effect. | **Prior Knowledge** (e.g. Wood and Lynch, 2002; Gregan-Paxton and John, 1997) | **H4:** High prior pension knowledge will positively influence the innovation adoption when the value proposition is framed more traditional for pension advisory<br><br>**H5:** High prior digital knowledge will positively influence the innovation adoption when the value proposition is framed more digital innovative |

TABLE 6 SUMMARY OF HYPOTHESES

## 5.2 METHODOLOGY

In this section we will motivate our methodological choices for the quantitative study conducted. The research topic will be presented followed by the scientific approach, choice of independent variables, explanation of the main study and finally the reliability of the study will be discussed.

### 5.2.1 RESEARCH TOPIC

During our exploratory study we saw tendencies that different factors seemed to have various impact on why some Pensio consumers' had decided to use the service offered. When analyzing the empirical material, we came to the conclusion that the adoption intention probably is effected through characteristics of both the user and sender of information and also by the value offered and communicated. While looking into theories we found beliefs aligned with ours which stressed the fact that innovation adoption is affected by characteristics of both the adopter and innovation (Roger, 2003; Arts et al., 2011), and theories who discuss the importance of the value communicated and offered to consumers' (Holttinen, 2013).

Even if marketing literature have come across these areas of importance before, it has not been examined in relation to each other nor within the growing industry of automated investment services. It is an industry reshaping the financial service industry through digital disruption and due to its growing importance it is of relevance to understand what drives consumers' to use this kind of service.

### 5.2.2 SCIENTIFIC APPROACH

In order to achieve the academic goal and respond to our second research question a deductive approach has been applied for our confirmatory part of the thesis. After we analyzed the results from the exploratory study, we sought answers and inspiration through a literature review which we used as a foundation while forming our hypotheses. We thus followed recommendations by reviewing existing secondary sources before we collected our primary data (Malhotra, 2010). We used a quantitative approach since it increases generalizability and comparability of the data (ibid.), and thus our findings are to a larger extent applicable to the financial technology sector. Due to our aim to explore how a manipulated independent variable affect a dependent variable, thus a causal relationship, we used an experimental design to examine this relationship (Bryman and Bell, 2011).

Within experimental design a basic distinction is between *laboratory experiment* and *field experiment.* A laboratory experiment is conducted in a laboratory or fixed setting while field

experiments takes place in real-life settings (Bryman, 2012). Due to this distinction our experimental approach is more closely related to a laboratory experiment than a field experiment since it did not take place in real-life setting. The advantages with an arranged experiment is the possibility to randomly assign the manipulated variables and increase the level of control (ibid). These advantages were taken into consideration since we did randomize our survey base. However, full control was not possible to achieve but to increase the level of control we implemented controls to ensure that the surveyed responded to the stimuli as intended.

## 5.2.3 INDEPENDENT VARIABLES

From the main concepts in our exploratory study and the literature review we chose to focus on two independent variables; corporate credibility and value proposition.

### 5.2.3.1 CORPORATE CREDIBILITY

The first independent variable is referring to the corporate credibility of a company, where we wanted to examine effects between a source that is perceived to have either high or low credibility. One factor that possibly can affect a company's perceived credibility is the organizational size. Within literature examining customers initial trust towards companies in both online and offline contexts it has been shown that customers are more likely to trust a company when it is perceived to be large in size (Jarvenpaa and Tractinsky, 1999; Doney and Cannon, 1997). Therefore, we chose to expose the respondents to either a large company or a small company. The companies were described in terms of market size, turnover and employees, during how long time it had been active and whether it was listed or not at Stockholm stock exchange (description found in appendix C).

In order to confirm that the larger company had higher corporate credibility we included questions about the company's perceived trustworthiness and expertise after the description of the company. We used Harmon & Coney's (1982) 6-item seven-point semantic differential scale and measured a Cronbach alpha of $\alpha= 0.879$. As seen in table 7 it was significant that the larger company were perceived to be more credible.

| | Large company (n=108) | Small company (n=110) | Mean dif. | Sig. 2-tailed |
|---|---|---|---|---|
| Corporate credibility | 4.91 | 3.88 | 1.03 | **0.000** |
| Trustworthiness | 4.75 | 4.05 | 0.70 | **0.000** |
| Expertise | 5.08 | 3.71 | 1.37 | **0.000** |

TABLE 7 CORPORATE CREDIBILITY WITH COMPONENTS

## 5.2.3.2 VALUE PROPOSITIONS

Our second independent variable is the company's value proposition. From our exploratory study we found that there were inconsistent views on what value Pensio actually delivered. Therefore, we began with deriving attributes from our explorative data that was used to develop the two different value propositions. As seen in table 8 we identified four individual attributes, based on the exploratory study, for each of the value propositions and four attributes that were common for them.

| INNOVATIVE | | TRADITIONAL | | FOR BOTH | |
|---|---|---|---|---|---|
| **Attribute** | **Quote** | **Attribute** | **Quote** | **Attribute** | **Quote** |
| **User friendly** | "It is very simple when you get a recommendation to know how you should do to change your funds." | **Analytical** | "When you use the service you get an analysis over your savings…" | **Digital** | "It is digital functions that control this…" |
| **Innovative** | "A break-through for commission-free advisory where pension savers are prioritized first." | **Objective** | "…for the employer to take their responsibility, to actually pay a little extra to give their employers objective advisory." | **Advisory** | "…is an placing advisor who helps customers with their pensions" |
| **Optimizing** | "We optimize for each one of these." | **Personal** | "Pensio analyze your current retirement savings and take your individual profile into consideration…" | **Detached** | "We are not like the others…they earn money on provisions…our only mission is to give you the best possible advice." |
| **Available** | "Often employees have low knowledge, therefore they use the service just to get advice since they never have received that before." | **Helpful** | "Pensio helps the customers to take care of their pension capital in the best possible way." | **Independent** | "The employee receives a summary over their pension saving and … then an independent advise." |

TABLE 8 IDENTIFIED SERVICE ATTRIBUTES

We decided to distinct the two value propositions so one would represent the more traditional view of pension advisory and the other would represent the digital innovativeness that Pensio deliver. These two perspectives were chosen since they occurred at several times in different interviews and they represent how a financial technology is defined. After a first pre-test used as an indication for our direction we came to the understanding that we had to develop a template for the two value propositions. We developed it according to table 9 below, hence the presentation of the service, result and company situation was similar in the two propositions and the method and benefit differed.

| Structure | Innovative | Traditional |
|---|---|---|
| **Introduction** | Pensio is now offering PensioPlan, a digital pension advisory who will help you with your retirement savings. | Pensio is now offering PensioPlan, a digital pension advisory who will help you with your retirement savings. |
| **Method** | PensioPlan is a user friendly digital app that by an innovative algorithm automatically optimize your retirement savings. | PensioPlan is a passive advisor that by an analytic and objective method analyze the entire fund market and give recommendation tailored to your situation. |
| **Results** | By finding the cheapest funds with a risk diversification based on your profile PensioPlan can increase your retirement capital with up to 40 %. | By finding the cheapest funds with a risk diversification based on your profile PensioPlan can increase your retirement capital with up to 40 %. |
| **Benefits** | PensioPlan is always available and is just a few clicks away. You reach it through your computer, smartphone or tablet. | PensioPlan helps you gather your retirement in one place. It is a secure solution for you who seeks a personal pension advisory. |
| **Role of Service** | PensioPlan is an entirely independent actor who don't take any provision, neither by you or the fund managers. | PensioPlan is an entirely independent actor who don't take any provision, neither by you or the fund managers. |

TABLE 9 TEMPLATE FOR VALUE PROPOSITIONS

After we developed the two value propositions according to the template, we conducted a second pre-test to confirm that they were perceived differently and accordingly to the derived attributes (full length pre-test is found in appendix D). We randomly assigned 32 students at Stockholm School of Economics one of the two value propositions. After they had read the description of the service they were shown nine attributes and asked to indicate to what degree they perceived the service to fulfill these attributes. Table 10 presents the results from the pre-test where it is seen that innovative attributes had a significant higher mean when the respondents received the innovative value proposition. For the traditional attributes the mean was not significantly higher when respondents were given the traditional value proposition. However, the mean for all the three attributes were above 4 and thus, the traditional value proposition reflects the attributes proposed in table 8. For the attributes that aimed to be similar for the two value propositions there were no significant differences and the mean values were above 4.

| | Innovative (n=16) | Traditional (n=16) | Mean dif. | Sig. 2-tailed |
|---|---|---|---|---|
| User friendly | 5.81 | 4.88 | 0.93 | **0.041** |
| Innovative | 5.88 | 4.56 | 1.32 | **0.008** |
| Available | 6.19 | 4.93 | 1.26 | **0.011** |
| Analytical | 5.38 | 5.00 | 0.38 | 0.434 |
| Personal | 5.19 | 4.31 | 0.88 | 0.085 |
| Helpful | 4.69 | 4.06 | 0.63 | 0.183 |
| Digital | 6.38 | 5.94 | 0.44 | 0.329 |
| Advisable | 5.38 | 4.69 | 0.69 | 0.147 |
| Independent | 5.06 | 4.44 | 0.62 | 0.246 |

TABLE 10 PRE-TEST FOR VALUE PROPOSITIONS

In the pre-test we also tested to what degree the value propositions were perceived to be consumer-centric. For this we sought inspiration from Lindi and da Silva (2011) who proposes five dimensions to make the value proposition more consumer-centric; performance, ease of use, reliability, flexibility and affectivity. As seen in table 11 the more innovative value proposition was also believed to be more consumer-centric on all the aspects apart from affective were both value propositions had a low mean.

| | Innovative (n=16) | Traditional (n=16) | Mean dif. | Sig. 2-tailed |
|---|---|---|---|---|
| Performing | 5.47 | 4.50 | 0.97 | **0.037** |
| Ease to use | 5.75 | 4.75 | 1.00 | **0.030** |
| Reliable | 4.75 | 3.75 | 1.00 | **0.023** |
| Flexible | 5.31 | 4.25 | 1.06 | 0.066 |
| Affective | 2.88 | 2.94 | 0.06 | 0.909 |

TABLE 11 PRE-TEST FOR CONSUMER-CENTRIC VALUE PROPOSITION

A final assurance in order to confirm that the respondents perceived the value propositions as intended was conducted through the main study. After the value propositions had been presented we asked the participant to answer to what degree the service fulfilled two attributes. For the innovative service the attributes asked for were *innovative* and *user friendly* and for the traditional it was *analytical and advisable.* If both of the presented attributes were below a value of four on a 7-point scale, we excluded them from our collected data since it indicated that they did not perceive the value proposition as intended.

*5.2.3.3 STIMULI DESIGN*

In order to test the effects of our chosen independent variables, corporate credibility and value proposition, we needed four types of stimuli. Figure 7 below visualize the four types of stimuli where the y-axis represents the value propositions and the x-axis the corporate credibility.
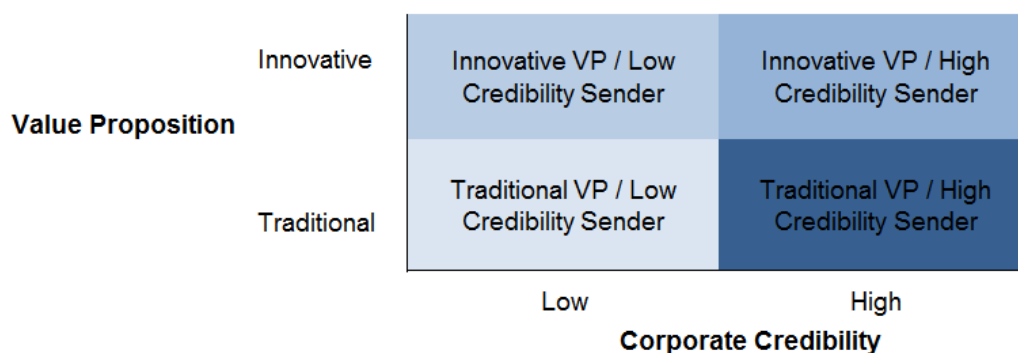


FIGURE 7 STIMULI DESIGN

## 5.2.4 MAIN STUDY

The main study was collected from 25th of April to 1th of May. The data were collected both online, through Facebook and e-mails, and offline by distributing printed surveys. The offline data collection took place at the central station in Stockholm Tuesday 26th of April between 16.00-17.30 and at Stockholm School of Economics both Tuesday 26th of April between 18.00-19.00 and Wednesday 27th of April between 11.00-12.00 and 14.00-15.00.

After excluding responses that were either incomplete or didn't fulfil the manipulation check for the value propositions, as described in section *5.2.3.2 Value propositions,* we managed to collect a total of 218 responses, where 100 were collected offline and 118 online. In order to make sure that no differences were derived from the two distributions channels we conducted a t-test that verified that the only significant differences were education and age (see appendix E), which is understandable since much of the offline data was collected at Stockholm School of Economics, with a younger audience that yet haven't completed their studies. Since there were only small differences, we chose to move forward with data consisting of the both distribution channels.

The data sample consisted of 53% men (116), 46 % women (101) and 0.5 % undefined (1). The average age was 31 years old, ranging from 19-95. Most of the respondents had completed a university degree consisting of more than three years and were living in a big city.

## *5.2.4.1 STUDY DESIGN*

The study consisted of four different parts. First the respondents had to answer their self estimated knowledge within the pension and digital field. After having answered these question the respondents were exposed to either a small or large company and had to answer questions about the perceived corporate credibility. Then the respondents were showed one of the two value propositions that were followed with a control question and their intention to use the service. Finally, the respondents had to answer to a few question concerning demographics. The survey can be seen in full length in appendix F.

Before the survey was handed out it was both reviewed by our supervisor, Clare Ingram, and a convenience group consisting of five people. Based on the feedback we were given we edited the texts, questions and the survey flow in order to make the survey as comprehensive as possible. We consistently used a seven-point scale for all our measure which allows respondents to be more precise and thus avoid neutral answers (Wakita et al., 2012). In our survey we chose to use both Likert scale and semantic differential scales since we have selected measures from already validated scales and that research has shown that there is little variation in the results when using one of the two scales (Menezes and Elbert, 1979).

In our survey we used the fictive name Pensio. It is important to note that there is a company active in Nyköping running under the name Pensio. However, with only 7 employees in a municipality with less than 55,000 inhabitants we decided it was safe to assume that no strong brand preferences would exist towards the company name Pensio.

## *5.2.4.2 DEPENDENT VARIABLES*

**Innovation adoption**

To measure the innovation adoption which according to Rogers (2003) refers to a consumer's' choice to fully make use of an innovation we adapted the *innovation to use* from Venkatesh and Davis (2000). The scale used was a seven-point Likert scale with the statements *"Assuming I have access to the service, I intend to use it"* and *"Given I have access to the system, I predict that I would use it".* Cronbach's alpha was $\alpha = 0.916$.

The intention to use the service was measured since it is free for the consumers to use Pensio, hence only the adoption intention is of relevance and not the purchase intention.

### 5.2.4.3 ADOPTER CHARACTERISTICS

The adopter characteristics are here divided into socio-demographics and consumer knowledge.

**Socio-demographics**

For socio-demographics we chose to ask for the respondents highest completed educational degree, what kind of city the lived in, their gender and finally, their age.

**Consumer knowledge**

From our exploratory data we found that knowledge was believed to affect consumers' perceived intention to use the service. We therefore chose to measure the consumer's' self estimated knowledge within the pension and digital field. The reason why we used questions based on self estimation is because developing measures for actual knowledge would possibly have presented a bias from what we perceive to be a high knowledge within a field as well as required extensive preparatory work. To further justify the use of self estimated knowledge Ackerman et al. (2002) found evidence that individuals have a general sense of their relative strengths and weaknesses in different knowledge domains. To measure the pension knowledge, we formulated the two statements *"I have good knowledge about pension savings"* and *"I have a good understanding of what factors that affect my pension savings"*. These two measured a Cronbach's alpha of $\alpha = 0.911$.

For the digital knowledge we developed the two statements *"I have good knowledge within digital solutions"* and *"I often use digital applications/apps to perform bank transactions (e.g. through computer, smartphone or a tablet)"*. These two measured a cronbach's alpha of $\alpha = 0.287$, thus we could not use them as one index. In our data we could see that several respondents valuated their knowledge within digital solutions unfairly low. Thus, we decided to exclude the first statement and only use the one with a focus of digital applications. Single-item measures have been used in the literature before and it has been acknowledged that practitioners might not always be convinced that several questions are more useful (Söderlund and Mattsson, 2015).

### 5.3.4.5 ANALYTICAL TOOL

Throughout our thesis we have used IBM SPSS Statistics 23 as the analytical tool. For all the tests a significance level of 5 % was used. We have mainly performed Independent T-tests One-way ANOVA's and regressions.

## 5.2.5 QUALITY OF THE STUDY

In order to confirm proper data quality, the most important variables to consider are validity and reliability (Bryman and Bell, 2011).

### 5.2.5.1 RELIABILITY

When it comes to quantitative researches reliability refers to the consistency of the measures. Two of the important factors while discussing reliability are the *internal reliability* and the *stability over time* (Bryman and Bell, 2011).

**Internal reliability**

Internal reliability refers to whether the measures are coherent and reliable (ibid). For this study Cronbach's alpha has been used for each index in order to reassure the internal consistency. We have followed Malhotra's (2010) recommendation to reject all values below 0.7 for Cronbach's alpha as unsatisfactory.

**Stability over time**

Stability over time is referring to if the measures are consistent over time and in order to reassure this an additional research would have been needed (Bryman and Bell, 2011). This is however out of scope for our thesis and can thus be seen as one of the limitations for this study.

### 5.2.5.2 VALIDITY

Validity indicates whether the measurements actually capture the intended concept and is divided into internal and external validity (Bryman and Bell, 2011).

**Internal validity**

Internal validity refers to if the study observe what actually was intended to be measured, thus if the manipulation of independent variables is the reason for the effects on the dependent variables rather than external factors (ibid). First of all, our study was more relatable to a laboratory experiment which generates a higher internal validity in comparison to a field experiment (Malhotra 2010). For our independent variables we used manipulation checks, as described in section *5.2.3. Independent variables,* in order to confirm that they had the intended effect in our study. Moreover, we distributed equal studies to all our respondents online and offline and compared the means between the groups in order to isolate our differences to the independent variables. In both cases the participants were randomly assigned one of the four stimulus.

**External validity**

External validity refers to what extent the study is generalizable in other areas (Bryman and Bell, 2011). We tried to capture a broader sample by conducting the study both online and offline, collecting surveys in different places and through different networks. The combination of these methods increases the degree to make our results generalizable, however it could have been increased even further with a greater sample or more nuanced in terms of demographics.

## 5.3 RESULTS AND ANALYSIS

This section will present the results and analyses for the hypotheses presented in section 5.2 Presentation of hypotheses. The results for hypotheses H1-H3 will be presented beneath the sender of information and message and then be concluded with a summarizing analysis. Accordingly, characteristics of adopter and message will first present the results for hypotheses H4-H5 which will be followed by an analysis.

### 5.3.1 SENDER OF INFORMATION AND MESSAGE

To test hypotheses H1 and H2 a mean comparison by an independent t-test has been conducted. For H3 a One-way ANOVA was used.

**H1: A high credible source will have a greater positive impact on the innovation adoption than a low credible source**

The results, table 12, showed a slightly higher innovation adoption for a more credible source (M=4.62) than a less credible source (M=4.41). However, the result is not statistically supported (p=0.235) and thus hypothesis 1 is not supported.

| | High credibility (n=108) | Low credibility (n=110) | Mean dif. | Sig. 2-tailed |
|---|---|---|---|---|
| Innovation adoption | 4.62 | 4.41 | 0.21 | 0.235 |

TABLE 12 INNOVATION ADOPTION AND CORPORATE CREDIBILITY

*H1 - NOT SUPPORTED*

**H2: A more consumer-centric value proposition will have a greater positive impact on the innovation adoption than a less consumer-centric value proposition**

A more consumer-centric value proposition led to a higher innovation adoption (M=4.74) than a less consumer-centric value proposition (M=4.30). With a significance level above 0.05 (p=0.009) hypothesis 2 is supported, which is seen in table 13.

|  | Innovative (n=108) | Traditional (n=110) | Mean dif. | Sig. 2-tailed |
|---|---|---|---|---|
| Innovation adoption | 4.74 | 4.30 | 0.44 | **0.009** |

TABLE 13 INNOVATION ADOPTION AND VALUE PROPOSITIONS

*H2 - SUPPORTED*

**H3: A consumer-centric value proposition will have a greater positive impact on the innovation adoption than the corporate credibility**

In order to support our third hypothesis, we would see a significant difference between the two value propositions independent on the corporate credibility. As table 14 visualize the consumer-centric value proposition generate a higher innovation adoption (M=4.76) than a less consumer-centric value proposition (M=3.99) when the company is less credible (p=0.016). For the more credible company the consumer-centric value proposition also generates a slightly higher innovation adoption (M=4.71) than a less consumer-centric value proposition (M=4.51), but without an adequate significance level (p=0.915). Therefore, the third hypothesis can only be partly supported with the result that the value proposition has a higher impact when the company is less credible.

| Manipulation 1 | Mean | Manipulation 2 | Mean | Mean dif. | Sig. 2-tailed |
|---|---|---|---|---|---|
| Low credibility /Innovative | 4.75 | Low credibility /Traditional | 3.99 | 0.76 | **0.016** |
| High credibility /Innovative | 4.71 | Low credibility /Traditional | 3.99 | 0.72 | **0.043** |
| High credibility /Traditional | 4.54 | Low credibility /Traditional | 3.99 | 0.55 | 0.144 |
| Low credibility /Innovative | 4.75 | High credibility /Traditional | 4.54 | 0.21 | 0.821 |
| High credibility /Innovative | 4.71 | High credibility /Traditional | 4.54 | 0.17 | 0.915 |
| Low credibility /Innovative | 4.75 | High credibility /Innovative | 4.71 | 0.04 | 0.999 |

TABLE 14 INNOVATION ADOPTION FOR VALUE PROPOSITIONS AND CORPORATE CREDIBILITY

*H3 – PARTLY SUPPORTED*

*5.3.1.1 ANALYSIS OF SENDER OF INFORMATION AND MESSAGE*

Beginning by examining the results for the value propositions and the corporate credibility in isolation, we were able to see that changes in the value proposition had effect on the adoption intention, while corporate credibility had no effect. When the company was perceived to be more credible the mean for the innovation adoption was only 0.21 units higher, in comparison to a less credible company. In the exploratory study we saw clear indication that the company's perceived credibility were one of the main reasons why their employees decided to use the service in the first place. One reasons why we didn't see the same effects in the confirmatory study as in the exploratory study can be dependent on the fact that our study didn't fully capture the employee's relation to their employer, rather the credible effect of an independent organization.

For the value propositions, it was statistically supported that the consumer-centric value proposition generated a higher adoption intention of 0.44 units. The result is thus in accordance with theories suggesting that a more consumer-centric value proposition is of importance for companies, especially since it is a way to make their services more tangible.

When investigating the results for the value propositions and the corporate credibility in combination, we could see slightly different results. Of particular interest is the insight that when the company is perceived to be less credible the formulation of the value proposition is of greater importance, since the consumer-centric value proposition increased the adoption intention by 0.77 units. Comparing this to the more credible company where there were no significant differences for the value propositions we can see that in accordance to theories presented, a more credible company seem to generate a higher persuasiveness for the message they are presenting. We can thus see that the credibility of the company has an effect of how important the value proposition will be, where a low credible source needs to put a greater emphasis to present a compelling value proposition to consumers.

## 5.3.2 CHARACTERISTICS OF ADOPTER AND MESSAGE

In order to test H4 and H5 a linear regression analysis has been conducted.

**H4: High prior pension knowledge will positively influence the innovation adoption when the value proposition is framed more traditional for pension advisory**

The mean for prior pension knowledge in the entire sample was 3.43, which we decided to not define as high knowledge. Therefore, we only included respondents with a mean above 4 in the pension knowledge index, which resulted in 69 respondents with a high prior knowledge. 36 of these received the value proposition framed more traditional for pension

advisory. We could not statistically support that high knowledge within pension advisory affect the innovation adoption (p=0.185) and therefore hypothesis 5 is not supported, table 15.

However, while conducting the regression analysis we found that high prior knowledge within pensions had a negative effect ($\beta$=-0.499) when the respondents (n=33) were presented with the more digital value proposition (p=0.026).

| Dependent variable | Manipulation | Adjusted R-square | Unstandardized $\beta$ | Sig.2-tailed |
|---|---|---|---|---|
| Innovation adoption | Traditional (n=36) | 0.023 | 0.343 | 0.185 |
| | Innovative (n=33) | 0.123 | -0.499 | **0.026** |

TABLE 15 PRIOR PENSION KNOWLEDGE AND INNOVATION ADOPTION

*H5 – NOT SUPPORTED*

**H5: High prior digital knowledge will positively influence the innovation adoption when the value proposition is framed more digital innovative**

The mean for prior digital knowledge in the entire sample was 6.35 with a standard deviation of 1.23. We regard a mean of 6.35 as high knowledge and thus, chose to include the entire sample. From the results we could see that the respondent's prior knowledge had a positive effect ($\beta$=0.206) on the innovation adoption (p=0.032). Hypothesis 5 can thereby be supported, as seen in table 16.

Important to note is that the prior digital knowledge did not have any effect on the innovation adoption while the value proposition was framed more traditional ($\beta$=0.065, p=0.498).

| Dependent variable | Manipulation | Adjusted R-square | Unstandardized $\beta$ | Sig.2-tailed |
|---|---|---|---|---|
| Innovation adoption | Innovative | 0.033 | 0.233 | **0.034** |
| | Traditional | 0.004 | 0.055 | 0.498 |

TABLE 16 PRIOR DIGITAL KNOWLEDGE AND INNOVATION ADOPTION

*H5 - SUPPORTED*

### 5.3.2.1. ANALYSIS OF CHARACTERISTICS OF ADOPTER AND MESSAGE

Examining the results of the adopter's prior knowledge we were able to see that a high prior knowledge within pensions did not effect the adoption intention when the value proposition was framed more pension traditional. One theoretical explanation for this would be that the respondents with high knowledge incorrectly generalized what actual value the service delivered based on their previous knowledge within pension advisory. Another reasoning is that they didn't perceive the value proposition to be different enough from other competitors in the sector. Apart from this finding we saw that when respondents had high prior knowledge within pensions the knowledge had a negative effect on the innovation adoption when the value proposition was framed more digital. This could indicate that knowledge within retirement savings is not enough to fully understand the potential value of the digital value proposition.

A high prior knowledge within the digital field had a positive effect on the innovation adoption intention when the value proposition was framed more digital. We can therefore see that prior knowledge has effect on the innovation adoption when it can be used to understand the service in question. Comparing with the finding that prior pension knowledge had a negative effect we can see the importance to trigger the right knowledge when formulating the value proposition. This is further strengthen since we in the results saw that high digital knowledge had no effect when it was a pension traditional value proposition.

Summarizing our findings, it was clear that the message generated the highest effects on the innovation adoption. In isolation the consumer-centric value proposition had a higher adoption intention compared to the less consumer-centric value proposition. In combination with the corporate credibility we saw that for a less credible source it was of greater importance to have a consumer-centric value proposition since it increased the innovation adoption by 0.77 units. Apart from this it also triggered the greatest effects for the characteristics of the adopter; when the respondents had a high prior pension knowledge there was a negative knowledge impact and when they had a high prior digital knowledge it had a positive correlation with the adoption intention.

### 5.3.3 SUMMARY OF RESULTS

Table 17 visualize a summary of the results presented.

| Hypothesis | Result |
|---|---|
| **H1:** A high credible source will have a greater positive impact on the innovation adoption than a low credible source | Not supported |
| **H2:** A more consumer-centric value proposition will have a greater positive impact on the innovation adoption than a less consumer-centric value proposition | Supported |
| **H3:** A consumer-centric value proposition will have a greater positive impact on the innovation adoption than a high credible source | Partly Supported |
| **H4:** High prior pension knowledge will positively influence the innovation adoption when the value proposition is framed more traditional for pension advisory | Not Supported |
| **H5:** High prior digital knowledge will positively influence the innovation adoption when the value proposition is framed more digital innovative | Supported |

TABLE 17 SUMMARY OF RESULTS

*This chapter has presented the confirmatory study. By testing the five hypotheses presented it was found that a consumer-centric value proposition has an impact on the innovation adoption. It was also found that a high prior digital knowledge affects the innovation adoption positively with an innovative value proposition while high prior pension knowledge had a negative effect on the innovation adoption. These results together with the findings from the exploratory study will now be elaborated further in the discussion.*

# 6. DISCUSSION

*In this chapter, we will discuss the findings from our exploratory and confirmatory research. We will connect these findings to the research questions that has guided this thesis. Further, we will discuss the theoretical implications for how these findings match and contribute to the existing body of knowledge regarding marketing of services and service innovation.*

## 6.1 EMPIRICAL IMPLICATIONS

### 6.1.1 EXPLORATORY IMPLICATIONS

The research presented in this thesis was designed to answer two research questions. In the first exploratory section of this thesis, we sought to answer the question:

*"Which are the major consumer marketing implications within automated investment services?"*

Adopting a service innovation is often associated with uncertainty and risk, factors that negatively impact consumer adoption intention. The existing relationship between the messenger of the information regarding the new service and the potential user will impact the perceived risk of the innovation. In our case study, the relationship between the employer (intermediary) and the employee (potential user) was of significant importance. A positive perception of the intermediary of the service and/or information regarding the service, translates into a lower perceived risk of the innovation for the potential user. Thus, a major marketing implication to investigate when researching on communication regarding automated investment services is the relationship between the potential user and the intermediary facilitating or communicating the service.

The characteristics of services makes them harder for consumers to evaluate than products. Further, the service characteristics are often negatively correlated with the characteristics that facilitates innovation adoption intention, such as compatibility, complexity, observability and trialability. For service innovations within the financial industry, these characteristics are enlarged due to the perceived complexity and ambiguous performance evaluation of the industry in general as the findings in our interview data indicated. The communication message regarding the service functions, its usage and its benefits are exclusively perceived by each potential user, based on her/his characteristics. This evaluation will impact the perceived relative advantage and the perceived complexity of the service, which in turn

impact innovation adoption. The framing and presentation of the automated investment service through communication is key marketing challenge.

From a Pensio internal perspective, the potential users' knowledge about personal finance had an impact on both the attention to Pensio's communication, the perception of Pensio's service and the incentives to use it. This was only partly supported by the data provided by the actual users. However, a far stronger pattern was the user's knowledge and usage of digital services in other areas, such as payments. Hence, the role of user knowledge within the primary service field (personal finance) was ambiguous but the role of user knowledge in of digital solutions was prominent. The relationship between the user's knowledge in the primary and related service areas are is dominating factor to consider in the marketing of automated investment services.

## 6.1.2 CONFIRMATORY IMPLICATIONS

To expand the knowledge on the factors identified in our exploratory study and test the generalizability of these findings, we conducted a quantitative, confirmatory study with the objective to answer the research question:

*"To what degree do corporate credibility, framing of value proposition and receiver knowledge drive a consumer's intention to adopt an automated investment service?*

We found that corporate credibility had very little impact on the consumer's adoption intention. The hypothesis was not supported even though if there were positive indications that a high corporate credibility would have a positive impact on adoption intention (H1 - Rejected). The outcome is rather surprising due to the strong coherence between our qualitative research and the theoretical assessment, which both were supporting the important role of corporate credibility. A potential reason for the discrepancy between the findings in exploratory data and in the confirmatory experiment is that the latter did not succeed to capture the impact that the full context and importance of the employer-employee relationship found in the exploratory study, which was the origin of the hypothesis formulation.

In our research, we saw that the framing of the value proposition had a significant impact on the consumer's intention to adopt an automated investment service. We tested two different value proposition that were derived from the user descriptions in the exploratory research. The results supported the hypothesis that a customer centric value proposition generates a higher adoption intention than less customer centric when communicating an automated investment service (H2 - Supported). According to previous research, this positive impact could arise because the consumer centric value proposition enhances the perceived tangibility of the service. Further, the consumer centric value proposition had a significantly

larger impact on adoption intention in the low source credibility/small company context (mean 4.0 to 4.8) than in the high credibility/big company context (mean 4.5 to 4.7). This indicates a mediating effect of the source credibility. However, did was not measured in isolation. A potential reason for this could be that the value proposition accounts for a larger part in the overall consumer evaluation of the service in a low credibility setting. Another option might be that the consumer perceived there to be better "fit" between a young, small company and a consumer centric value proposition in a digital setting, which was the case in our experiment. This pose an interesting topic for future research and the findings would likely render significant interest from the practitioners and commercial stakeholders as market entry strategy is a key focus to earliest stage enterprises.

A general consideration is how relatively small changes in the faming of the value proposition had significant impact on the innovation adoption intention. Through using a template, the value proposition was framed by manipulating two sentences towards either a more digital offering or a more traditional offering, using attributes identified in the exploratory study.

We also examined the impact of receiver's knowledge in our confirmatory study. We tested both self-estimated knowledge within pension and within digital solutions as these areas were presented as the most relevant in our exploratory study. We found that a high knowledge within pension had a negative impact on the service adoption intention for the digital value proposition. A possible explanation for this could be that high knowledge within pension savings generates a lower perceived need for pension savings advice, which is Pensio's core service. As the perceived value of the service shrinks when the consumer's perceived need of pension advisory is smaller, this would lead to a lower perceived value of the service, leading to a lower adoption intention. However, this reasoning is not supported but neither rejected by our second finding, which was that high pension knowledge did not have a positive impact on adoption intention for the traditional value proposition (H4 - Rejected). We did not test the opposite case, if low pension knowledge has a positive impact adoption intention. Even though it was not tested in the confirmatory study, we can extend the reasoning of the logic described above by hypothesizing that a lower knowledge in pension savings will likely trigger a higher need for pension savings advice, leading to a higher perceived value of the pension advisory service and thus a higher adoption intention.

Thirdly, we found that a high digital knowledge had a positive impact the innovation adoption intention for the digital value proposition of Pensio (H5 – Supported). Based on the theoretical framework relating to knowledge, this impact occurs because the value proposition triggered cues to an area that the respondent is knowledgeable within, which in this case was digital solutions. As the respondent is knowledgeable within digital solutions,

she/he will be better at processing innovations related to this area, such as Pensio. A better understanding of the innovation can reduce perceived uncertainty and complexity of the innovation, which will have a positive impact on the consumer's adoption intention. Further, a high knowledge within digital solutions can also increase the perceived relative advantages of the service, which will have a positive impact on the adoption intention.

### 6.1.3 COMBINING EXPLORATORY AND CONFIRMATORY

The overall purpose with this thesis was to explore the marketing implications in the growing industry of automated investment services. The thesis was driven by the aspiration to answer the overarching research question:

*How can automated investment services be marketed in order to increase the consumer's innovation adoption?*

In our exploratory data, we found that source credibility, framing or value proposition and receiver knowledge were major implication within the marketing of automated investment servicers. These findings were tested through a confirmatory study. We could prove and generalize the findings that the consumer's adoption intention for automated investment services are impacted by the framing of the value proposition and the knowledge of the potential user. We saw that by presenting a value proposition that stressed the digital nature of the service instead of a more traditional framing towards consumers that had a high digital knowledge, the intention to adopt the innovation increased. This leads to a conclusion that when marketing an automated investment service towards a high digital knowledge audience, you should stress the digital aspects of the service in the value proposition in order to increase the consumer's intention to adopt the service. Furthermore, through our experiment, we saw that high knowledge within pension, which was the primary service field, had a negative impact on the adoption intention for the digital value proposition. This finding was partly supported by the findings in our exploratory research, were we saw that low knowledge within pension seemed to a reason for usage of the service.

## 6.2 THEORETICAL IMPLICATIONS

### 6.2.1 SERVICE INNOVATION VARIES BY STAGE

The value proposition is central to services as they define the value delivered to the customer through the service (Anderson et al., 2006). The intangibility of services compared to products makes them harder to communicate (Zeithaml, 1981). Based on the diffusion of innovation theory, innovations are likely to spread in a chronological order to consumer

categories that share similar adopter characteristics (Rogers, 2003). Through our research we saw that the value proposition can impact the adoption intention of a service innovation. Based on this finding, we argue that the design of the value proposition will impact the adoption rate by impacting the perceived attributes of the service innovation, such as complexity and compatibility. This calls for a discussion of how the value proposition can be developed to impact the adoption intention of consumers within a specific adopter category.

Furthermore, the role of value proposition is further complicated when including the theory presented by Ballantyne (2003) regarding the reciprocal value proposition in the innovation diffusion process. Through merging the concept of adopter characteristics with the concept of the reciprocal value proposition, the value proposition will develop over time as consumers with new attributes compositions integrates with the innovation. We are theorizing on a concept of an *evolving value proposition* that changes and develops as the service innovation it frames and communicates is diffused in a society. The development of the value proposition occurs due to the changing characteristics the adaptors of the service innovation.

Through the S-D Logic, the theoretical implications of the evolving process of the value proposition expands to innovations in general. In their S-D Logic, Vargo and Lush (2004) argues that services are the fundamental basis of economic exchange and that goods only generate value through usage, which is the service they provide. Through this logic, there is a general move towards a service based perspective in marketing. As services are characterized by intangibility, the S-D logic represents a move towards a more intangible and dynamic marketing perspective. In our research, we saw that the customer centric value proposition increased the adoption intention for service innovations. Anderson et al. (2006) argue that by presenting a more consumer centric value proposition, the value becomes more tangible for the potential consumer. These two perspective pose a theoretical paradox; while value is co-produced and determined by the beneficiary, it will be framed and communicated by the service supplier. What is created is a *firm - value proposition - consumer- value definition* process through which the service is concretized and made tangible by a service provider through a communicated value proposition and then made intangible through the interpretation and usage by the consumer.

## 6.2.2 VALUE TRUMPS CREDIBILITY

Through our research, the theoretical case for source credibility was challenged regarding its applicability in the context of digital services. In dealing with services involving physical interaction, previous research that puts the concept of corporate credibility is central as the service delivery is heterogeneous and highly dependent on the person fulfilling the service delivery (Zeithaml, 1981, Lafferty and Goldsmith, 1999). The concept of corporate credibility

is closely related to the concept of institutional image, which was presented as a factor of key importance for service providing companies by Zeithaml et al. (1985). However, we identified that corporate credibility did not impact adoption intention in the context of automated investment services. Corporate credibility consists of the concepts of trustworthiness and expertise. Trustworthiness reflect the promise to deliver that expertise the ability to deliver what's promised (Newell and Goldsmith, 2001).

We theories on two reasons why corporate credibility has less impact within automated investment services than other service industries. One reason could be that the novelty of automated investment services has not allowed sufficient time for consumers to form an understanding of the service and that few brands have had sufficient time to differentiate themselves within the field through communication. Therefore, consumers have not developed preferences of service providers or even defined common attributes of the preferable service providers. For example, in our experiment we used attributes such as yearly turnover, years in business, size and ownership structure.

Another reason for the low impact of corporate credibility in the context of automated investment services relates to the automated and highly instrumental service that automated investment services provides. A high corporate credibility reflects a belief in that the service providing company both have the intention to deliver and the ability to deliver on the value proposition. For a digital service based on automated processes, the promise to deliver is replaced by the software's automated and instrumental response to the service users' commandos. Through the instrumental nature of automated investment services, there is no question regarding the intention or promise to fulfill the request but only of the ability to deliver. In this perspective, the service moves from being a service providing company with a value proposition to instead become a tool with a usage description. This reasoning is supported by the findings in our research that corporate credibility seems to have a lower impact in digital service contexts. However, this reasoning contradicts some of the earlier experiments within the field as they indicate a specific distrust towards advice from software and algorithms (Frich, 2015).

## 6.2.3 IMPACT OF SERVICE DISTRIBUTION

De Pelsmacker et al. (2010) communication framework stress that the main focus in the introduction phase of a new product or services is to build category need by stressing the relative advantages of the innovation compared to existing solution. Through our research, we found that the digital distribution of the service seemed to generate additional interest for the service. In our exploratory study, we saw that users who were not knowledgeable in personal finance or pension savings, and did not have an existing or substituting service,

were still motivated to use the service. In our confirmatory study, we saw that the digital value proposition generated a higher adoption intention and that digital knowledge boosted adoption intention for the digital value proposition. These findings lead us to argue that the relative advantages of a service are highly dependent on the medium through which the service is delivered. We argue that by stressing the medium in the value proposition, the perceived relative advantages of the service can be increased. The service medium impact can be explained using analogy based learning theory (Gregan-Paxton and John, 1997).  By including the service medium in the value proposition and communication, service providers can choose to steer the consumer's impression of the service by triggering associations to multiple related knowledge areas, preferably areas that the consumer are more knowledgeable in or has a more positive attitude towards. For example, we saw that Pension advisory could be considered as a low interest service and we found that by associating the value proposition to its digital delivery, the adoption intention increased.

## 6.2.4 THE ROLE OF KNOWLEDGE

In our confirmatory study, we found that high digital knowledge had a positive impact on the adoption intention for the innovative value proposition. These findings are aligned with Wood and Lynch (2002) conclusion that experts (people with high knowledge) better comprehend the product when they are perceived as new, which was the case in our study.

In their research on consumer innovation adoption, Arts et al. (2011) listed five recurring consumer attributes that are of high relevance to the consumer innovation adoption. Our concept of knowledge does not fit into any of these theoretical attributes. The attribute of product involvement, defined as *"The degree to which a consumer experiences differentiation, familiarity, importance and commitment for a specified product category, not brand."* (pp.136, Arts et al. 2011) is similar to our concept of "pension knowledge". However, our concept of "digital knowledge" is not related to product category as Art et al. (2011) defines Product involvement. Instead it captures the consumer's general comfortability in using services or products with a digital distribution. As digital knowledge did impact consumer innovation adoption intention, we argue that the theoretical framework for analyzing consumer attributes should be expanded to include the consumer's digital knowledge.

*This chapter has presented the empirical implications where the three research questions has been answered respectively. It was followed by the theoretical implications derived from the two studies discussing service innovations development, importance of value, the impact of service distribution and the role of knowledge.*

# 7. CONCLUSION

*In this final chapter we begin by presenting the theoretical contribution of this thesis. Thereafter the managerial implications of our findings will be highlighted followed by the limitations of our exploratory and confirmatory studies conducted. Finally, we conclude with recommendations for future research within the field of automated investment services.*

## 7.1 THEORETICAL CONTRIBUTION

In this study, we set out to investigate the service marketing implications of service innovations. This was more particularly done within the growing field of automated investment services. Zeithaml et al. (1985) identified and clearly encouraged additional research to be dedicated to illustrating the differences between various services. In our study, we identified that the marketing practice of automated investment services is different from general established service marketing theories. These findings indicate that services are different from each other and should not be treated as a bundled concept. This reasoning is further strengthened by Berry et al. (2006) who questions the previous found characteristics of services, *intangibility, inseparability, heterogeneity* and *perishability,* when arguing that several service providers today not resemble characteristics such as *inseparability* or *heterogeneity.*

By concluding the important notion that services should be treated differently the theoretical contribution of our thesis becomes more evident. Firstly, we have identified that service innovations, specifically automated investment services, differs from traditional service marketing and thus, raised the importance of continuing examining marketing implications within this rapidly growing field. Secondly, we have from our exploratory and confirmatory studies identified the importance of a consumer-centric value propositions and prior knowledge in order to raise the intention to adopt a service innovation.

## 7.2 MANAGERIAL IMPLICATIONS

From our studies we have identified three implications of importance for managers working with automated investment services.

**Focus on the value, not the credibility**

The reduced role of corporate credibility has implications for the marketers for digital service innovations. Consumers will to a higher degree focus on the value generated by the service

than the service providing company in a digital service context compared to a physical service context. This reduces the role of corporate credibility for digital services. Continuing this argument, we argue that multiple digital services will become highly commoditized and that service providers' ability to claim price premiums will decrease since the corporate credibility will be limited.

Furthermore, this means that smaller, younger companies which often have a lower corporate credibility (as our study indicated) should focus on developing their value proposition instead of seeking to increase their corporate credibility.

**How to remain consistent to innovators but adapt to new customers**

The role of value proposition and communication has been central to this thesis. As the service innovation diffuse into society, service providers might be faced with a decision to update their value proposition in order to attract user in later adopter categories. In this situation, a conflict might appear regarding how to balance the communication to both keep the initial customers (innovators/early adopters) and attract new customers (early majority).

**Knowledge based segmentation and targeting**

The findings regarding user characteristics generates some insights for practitioners in terms of market segmentation and target group definition. Based on the confirmatory data, an efficient targeting would be to focus on consumers with a low pension knowledge (i.e. a high need for the service) and with high knowledge of digital solutions (i.e. easy to reach through digital distribution). What this strategy is suggesting is that marketers can utilize existing knowledge in related fields when targeting a low knowledge customer group. For example, this group was not identified by the case company in our exploratory study.

In our exploratory research, we found that the amount of years to retirement had an impact on the level of knowledge and interest in pension savings. The shorter time to retirement, the higher interest and knowledge. Through our confirmatory study, in which the average respondent age was 31, we saw that the innovative digital proposition generated a higher adoption intention. Based on this finding, marketers should be able to attract a younger customer group through using a value proposition stressing the innovative attributes of the service.

## 7.3 LIMITATIONS

Even with the intention to conduct our exploratory and confirmatory with the utmost accuracy there are limitations with our thesis important to notify. We will identify limitations drawn from our exploratory study, followed by the confirmatory study, the mixed-method approach and conclude with overall limitations.

To begin with our sample size of 6 interviewees in the explorative study were rather small. The three internal interviewees represented a major share of the user interacting part of the organization and can hence be representative for the internal perspective at Pensio. Turning to the three user that were interviewed is not representative for the user base since this population is significantly larger and likely more fragmented. However, since we reached saturation (as discussed in section *4.1.4.1. Identifying themes)* we can justify the relatively small sample size.

In the confirmatory study one limitations concerns the homogeneous data sample. Even if the intention was to collect a representative sample through collecting data both online and offline at different locations, the sample can not be seen as representative for the Swedish population. The issue arisen also proves the difficulties to target a diverse data sample even when collecting the data at a place, such as Stockholm central station, where a randomized and diverse group is believed to be found. However, when aware of this homogeneous respondent group the generalizability of the study can be taken into consideration.

The thesis has been carried out through a mixed-method research design which, even if it compensates for weaknesses in a quantitative and qualitative approach alone, has some restrictions. Within the scope of this study one of the limitations has been that a mixed-method approach is seldom used and there are few guidelines on how to interpret conflicting results as we have seen in the two studies. However, in our study we could understand these conflicting results either from theory or differences in measures.

Finally, one of our limitations were concerned with time restrictions. Our initial research objective was to investigate the full service adoption journey by studying service users in all stages (e.g. potential users, non-users, users, ex. users). However, our access to these interviewees were cut off due to a last minute pull-out from Pensio's partnership companies. This forced us to limit our research focus to the intention to adopt. Therefore, our range of dependent variables in our experiment were limited to one, namely adoption intention. A benefit derived from the chosen approach is that the findings can to a larger extent be generalized outside the context of Pensio.

## 7.4 RECOMMENDATIONS FOR FUTURE RESEARCH

To conclude we would like to suggest avenues for future research which we have identified both due to limitations and from ideas that has occurred during the time the research has been conducted.

To begin with it is suggested to carry out a larger quantitative data collection where a broader data sample would be reached, and hence the generalizability could be increased. A larger data collection would enable the possibilities to compare individuals' innovation adoption for different stimulus depending on their demographical factors. It would also be of interest to include attitude preferences to be able to complete a behavioral segmentation within the different grades of adoption.

Corresponding to the prior suggestion, a larger quantitative data would also enable the possibility to examine the differences within knowledge bases more thoroughly. As presented we saw that high prior knowledge had different effects on the innovation adoption depending on the value proposition. Due to this it is reasonable to believe that there are other knowledge areas that can affect the perception of a service innovation. A larger study within knowledge could also compare the differences when the prior knowledge is either high or low, hence the effect of an expert or novice in service innovations.

Due to the novelty of the field examined we were able to identify what factors that has an effect on early adoptions intention to use an automated investment service. However, in order to know how a value proposition should transform together with the service innovation itself it would be of interest to examine the drivers to adopt at later stages in the innovation life cycle. If the adoption drivers for automated investment services could be identified in each of these stages it would be possible to propose concrete marketing strategies for practitioners working in the growing field of automated investment services.

Finally, we believe that it would be necessary to conduct a larger case study including more companies acting in the industry of automated investment services to identify a larger amount of marketing implications. When we began the work with our thesis in January 2016 this was not a possibility since there were almost no actors present in the industry. Only during these past months there has been an increased media attention towards automated investment services, or robo-advisory as it often is referred to. As recent as the 12th of May it became official that Prisma is the first FinTech company receiving an approval from the financial institution to perform digital advisory for private customers (Breakit, 2016). This alone addresses the importance of our thesis and moreover the need to conduct more extensive research within the area of automated investment services.

# 8. SOURCES

## 8.1 LITERATURE SOURCES

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# APPENDIX

## APPENDIX A – DEFINITIONS

**Automated investment services:** Passive asset managers who offers automated online investment portfolios that are tailored to the individual user's investment profile

**Corporate Credibility:** The perception of a company's trustworthiness and expertise

**Knowledge:** Information, facts and skills acquired through experience or education; a practical or theoretical understanding of a subject

**Innovation Adoption:** the consumer's decision to make full use of an innovation (Rogers, 2003)

**Service:** the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself

**Service innovations:** a new way of applying competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself

**Service user:** A person or corporation utilizing a service

**Robo-advisory:** A common nickname for automated investment services

# APPENDIX B – INTERVIEW GUIDES

## EMPLOYEE

**Introduction:**

- Introduced ourselves, the purpose with the study and how we were going to handle the material.

**Background:**

- Name
- Title at Pensio
- Amount of years at Pensio
- Work tasks at Pensio
- Describe Pensio's organizational structure

**Internal service perspective:**

- How would you describe Pensio's service?
- Which consumers are your target group? - End users or company?
- Why do you think consumers choose Pensio? - End users or company?
- Who do you see as your competitors?
- Which are your revenue sources?
- Which are the greatest challenges in Pensio's business?
  - Legal
  - Growth

**Communication:**

- How do you reach your potential consumers today?
- What kind of communication has been successful/less successful?
- What channels has shown to be most effective in order to attract new consumers.
- Are you using different messages in different channels?

**Role specific:**

- **CEO**
  - How do you work do develop the algorithms and technicalities behind your service?
  - How do you work in order to develop your platform?
  - Which is your next step in the development of Pensio's service?
  - How do you think Pensio will have to differentiate your service in order to be competitive in five years?

- **CMO**
  - How do you communicate with your existing consumers?
  - What channels do you use to communicate with your existing consumers?
  - How important is your platform (website) as a communication tool?
  - Do you involve consumers in your communication?
  - Do you engage you consumers in your marketing?
  - What is your view on consumer engagement?

- **Customer Support**
  - Which are the most recurring questions from potential consumers about Pensio's service?
  - Do you receive questions about pensions rather than Pensio's service?
  - Which are the ones who call most often about Pensio?
  - Is there any step in the process while changing to Pensio that you believe is difficult for the consumer?

**Closing of interview:**

- Conclude with final words

## USERS

**Introduction:**

- Introduced ourselves, the purpose with the study and how we were going to handle the material.

**Background:**

- Name
- Age
- Employer
- Years at company
- Role at company

**General Knowledge:**

- What is your perception about retirement savings?
- How do you view your own retirement savings?
- Does retirement savings evoke any particular feelings for you?
- Do you use new digital services and applications?
    - For example, do you use BankID or Swish?
- Do you shop online?

**Usage and Perception of service:**

- Do you use Pensio today?
- Would you like to shortly describe your perception of Pensio?
- How would you describe Pensio's service?
- How long time did it take before you switched to Pensio from the first time you heard about Pensio?
- Can you tell me about the process when you switched to Pensio?
- What was the reason for you to start using Pensio?
- How have you perceived the usage of Pensio so far?
- What do you believe to be the best thing about Pensio?

**Impression of communication:**

- Is there anything particular in in Pensio's communication that you have notified?
- Would you recommend you colleagues who don't use Pensio today to start using Pensio?

**Closing of interview:**

- Conclude with final words

## APPENDIX C – COMPANY DESCRIPTION

### LARGE

Pensio grundades i Sverige år 1912 och har en dominerande ställning inom sin industri med en marknadsandel på 37%. Företaget omsätter ca 900 miljoner per år och har idag över 300 anställda. Företaget är noterat på Stockholmsbörsen.

### SMALL

Pensio är ett nystartat bolag och grundades i Sverige 2014. Pensio är en mindre aktör i sin branch och har en marknadsandel på 3%.  Företaget omsätter ca 11 miljoner per år och har idag 9 anställda. Företaget är inte noterat, men har fått kapital via privata investeringar.

# APPENDIX D – SURVEY FOR PRE-STUDY

Hej!

Vi är två studenter från Handelshögskolan i Stockholm som för närvarande skriver vår masteruppsats. Den här undersökningen är därmed forskningsbaserad och alla svar kommer självfallet hanteras anonymt. Undersökningen beräknas att enbart ta 2-3 minuter. Stort tack för att du tar dig tid och hjälper oss mot vår examen!

Maja Larsdotter och Joel Jansson

Företaget Pensio har precis lanserat en ny tjänst på marknaden, PensioPlan. Nedan finner du en beskrivning av deras tjänst. Vi ber dig att läsa beskrivningen av tjänsten för att sedan kunna svara på några frågor.

**Innovative value proposition**

Pensio erbjuder nu PensioPlan, en digital pensionsrådgivare som hjälper dig med ditt pensionssparande. PensioPlan, är en användarvänlig app som genom en innovativ algoritm automatiskt optimerar ditt pensionssparande. Genom att hitta de billigaste fonderna och en riskspridning baserat på din profil kan PensioPlan höja ditt pensionskapital med upp till 40 %. PensioPlan är en helt fristående och oberoende aktör som inte tar någon provision, varken av dig eller fondförvaltarna. PensioPlan finns alltid tillgänglig och är bara några klick bort. Du når den via din dator, mobiltelefon eller surfplatta

**Traditional value proposition**

Pensio erbjuder nu PensioPlan, en digital pensionsrådgivare som hjälper dig med ditt pensionssparande. PensioPlan är en passiv rådigvare som genom en analytisk och objektiv metod analyserar hela fondmarknaden och ger rekommendationer anpassade för din situation. Genom att hitta de billigaste fonderna och en riskspridning baserat på din profil kan PensioPlan höja ditt pensionskapital med upp till 40 %. PensioPlan är en helt fristående och oberoende aktör som inte tar någon provision, varken av dig eller fondförvaltarna. PensioPlan hjälper dig att samla din pension på ett ställe. Det är en trygg lösning för dig som söker en personlig pensionsrådgivning.

Vänligen ange till vilken grad du håller med om följande påståenden.

Jag anser att den beskrivna tjänsten PensioPlan är...

| | 1.<br>Instämmer inte alls | 2 | 3 | 4 | 5 | 6 | 7.<br>Instämmer helt och hållet |
|---|---|---|---|---|---|---|---|
| Användarvänlig | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Innovativ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Tillgänglig | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Analytisk | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Personlig | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Hjälpsam | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Digital | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Rådgivande | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Oberoende | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

Jag anser att den beskrivna tjänsten PensioPlan är...

| | 1.<br>Instämmer inte alls | 2 | 3 | 4 | 5 | 6 | 7.<br>Instämmer helt och hållet |
|---|---|---|---|---|---|---|---|
| Presterande | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Användarvänlig | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Pålitlig | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Flexibel | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Emotionell | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

## APPENDIX E – ONLINE VS. OFFLINE COLLECTION

| Variable | Offline (n=100) | Online (n=118) | Mean dif. | Sig. 2-tailed |
|---|---|---|---|---|
| Knowledge Pension | 3,60 | 3,30 | 0,30 | 0,196 |
| Knowledge Digital | 6,23 | 6,45 | 0,22 | 0,231 |
| Trustworthiness | 4,44 | 4,36 | 0,08 | 0,514 |
| Expertise | 4,43 | 4,35 | 0,08 | 0,645 |
| Intention | 4,45 | 4,57 | 0,12 | 0,491 |
| Education | 3,15 | 3,73 | 0,58 | 0,000 |
| Living | 1,38 | 1,35 | 0,03 | 0,783 |
| Gender | 1,46 | 1,48 | 0,02 | 0,740 |
| Age | 28,14 | 33,70 | 5,56 | 0,002 |

TABLE 18 MEAN COMPARISON FOR ONLINE AND OFFLINE DATA COLLECTION

## APPENDIX F – SURVEY FOR MAIN STUDY

Hej!

Vi är två studenter från Handelshögskolan i Stockholm som för närvarande skriver vår masteruppsats. Den här undersökningen är forskningsbaserad och alla svar kommer självfallet hanteras anonymt. Det finns inga rätt eller fel så försök följa er intuition när ni svarar. Undersökningen beräknas ta ca. 5 minuter.

Stort tack för att du tar dig tid och hjälper oss mot vår examen!

Maja Larsdotter och Joel Jansson

**Vänligen indikera till vilken grad du håller med om följande påståenden.**

| | 1. Instämmer inte alls | 2 | 3 | 4 | 5 | 6 | 7. Instämmer helt och hållet |
|---|---|---|---|---|---|---|---|
| Jag har god kunskap om pensionssparande | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Jag har god förståelse för vilka faktorer som påverkar mitt pensionssparande | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Jag har god kunskap om digital lösningar | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Jag använder ofta digitala applikationer/"appar" för att utföra bankärenden (t ex via dator, mobiltelefon, surfplatta) | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

APPENDIX F – SURVEY FOR MAIN STUDY

**Vänligen läs följande text om företaget Pensio, du kommer sedan ombes att svara på några frågor om företaget.**

**EXPOSED TO EITHER A LARGE OR SMALL COMPANY:**

**Large:**

Pensio grundades i Sverige år 1912 och har en dominerande ställning inom sin industri med en marknadsandel på 37%. Företaget omsätter ca 900 miljoner per år och har idag över 300 anställda. Företaget är noterat på Stockholmsbörsen.

**Small:**

Pensio är ett nystartat bolag och grundades i Sverige 2014. Pensio är en mindre aktör i sin bransch och har en marknadsandel på 3%. Företaget omsätter ca 11 miljoner per år och har idag 9 anställda. Företaget är inte noterat, men har fått kapital via privata investeringar.

**På en skala mellan 1-7, vad anser du om företaget Pensio?**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|---|
| Dåligt: Bra | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Omoraliskt: Moraliskt | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Inte trovärdigt: Trovärdigt | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Inte utbildat: Utbildat | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Inte erfaret: Erfaret | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Inte sakkunnigt: Sakkunnigt | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Corporate credibility, source: Harmon & Coney (1982)**

**Företaget Pensio har precis lanserat en ny tjänst på marknaden, PensioPlan. Vi ber dig att läsa beskrivningen av tjänsten nedan för att sedan kunna svara på några frågor.**

**EXPOSED TO EITHER A INNOVATIVE OR TRADITIONAL VALUE PROPOSITION**

**Traditional with control question:**

Pensio erbjuder nu PensioPlan, en digital pensionsrådgivare som hjälper dig med ditt pensionssparande. PensioPlan är en passiv rådigvare som genom en analytisk och objektiv metod analyserar hela fondmarknaden och ger rekommendationer anpassade för din situation. Genom att hitta de billigaste fonderna och en riskspridning baserat på din profil kan PensioPlan höja ditt pensionskapital med upp till 40 %. PensioPlan är en helt fristående och oberoende aktör som inte tar någon provision, varken av dig eller fondförvaltarna. PensioPlan hjälper dig att samla din pension på ett ställe. Det är en trygg lösning för dig som söker en personlig pensionsrådgivning.

**På en skala mellan 1-7, anser jag att tjänsten PensioPlan är...**

|  | 1. Instämmer inte alls | 2 | 3 | 4 | 5 | 6 | 7. Instämmer helt och hållet |
|---|---|---|---|---|---|---|---|
| Analytisk | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Rådgivande | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Innovative with control question:**

Pensio erbjuder nu PensioPlan, en digital pensionsrådgivare som hjälper dig med ditt pensionssparande. PensioPlan, är en användarvänlig app som genom en innovativ algoritm automatiskt optimerar ditt pensionssparande. Genom att hitta de billigaste fonderna och en riskspridning baserat på din profil kan PensioPlan höja ditt pensionskapital med upp till 40 %. PensioPlan är en helt fristående och oberoende aktör som inte tar någon provision, varken av dig eller fondförvaltarna. PensioPlan finns alltid tillgänglig och är bara några klick bort. Du når den via din dator, mobiltelefon eller surfplatta.

**På en skala mellan 1-7, anser jag att tjänsten PensioPlan är...**

| | 1. Instämmer inte alls | 2 | 3 | 4 | 5 | 6 | 7. Instämmer helt och hållet |
|---|---|---|---|---|---|---|---|
| Innovativ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Användarvänlig | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Vänligen ange till vilken grad du håller med om följande påståenden.**

| | 1. Instämmer inte alls | 2 | 3 | 4 | 5 | 6 | 7. Instämmer helt och hållet |
|---|---|---|---|---|---|---|---|
| Förutsatt att jag har tillgång till tjänsten, är min intention att använda den | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| Givet att jag har tillgång till tjänsten, tror jag att jag kommer använda den | ○ | ○ | ○ | ○ | ○ | ○ | ○ |

**Innovation adoption, source: Venkatesh and Davis (2000)**

**Slutligen vill vi veta lite mer om dig.**

**Vilken är din högsta genomförda utbildning?**

❍ Grundskola, folkskola, realskola eller liknande
❍ Gymnasieutbildning eller fackskola
❍ Universitets- eller högskoleutbildning kortare än 3 år
❍ Universitets- eller högskoleutbildning 3 år eller längre

**Vänligen ange var du bor**

❍ Storstad
❍ Mellanstor stad
❍ Småstad
❍ Glesbyggd
❍ Utanför Sverige

**Jag definierar mig som**

❍ Man
❍ Kvinna
❍ Annat/Vill ej uppge

**Vänligen ange din ålder i siffror**

_____