

# UNIVERSITY OF TWENTE.

Faculty Behavioural, Management and Social Sciences (BMS)

## Determinants of customer experience in digitized private banking

Maurice te Spenke s1498460 M.Sc. Thesis Business Administration Financial Management track

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Supervisors: Prof. R. Kabir Dr. H. van Beusichem

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## Abstract

This study aims to explain customer experience of private banking clients in digitised financial advisory. Partially digitised banking environments are often created for inward cost-reduction and speed purposes, while customer attitudes towards this digitization might not always be positive. Specifically in the private banking segment, personal and convincing advice are of paramount importance. Therefore, for a sample of Dutch High-Net-Worth-Individuals three factors will be tested to what extent they determine the customer experience of financial advisory. We chose to include perceived trustworthiness, perceived competencies and price, as these factors are already proven to be relevant by previous scholars, but tested in different settings to ours. Whereas other researchers often use samples of regular investors, as private banking clients have a lack of willingness to participate in studies, we specify for private banking clients who posses at least €500,000 in net assets. To gather our data we use surveys that are distributed to private banking clients through email by their own investment advisor. These investment advisors are employed at a private bank that agreed to cooperate and make this data collection possible.

Following scholars as for example Balasubramanian et al. (2003), Van Raaij & Van Thiel (2017) and Urban (2000) we made three hypotheses. The results of this study support our hypotheses and show that perceived trustworthiness (+), perceived competencies (+) and price perceptions (-) are factors that influence customer experience. We show that including socio-demographic control variables increases the explaning power of the models and that in some instances even relationships between predictor and dependent variable change. Analysis on these show that, investing experience over 10 years influences customer experience in a negative way. Analysis for different subsamples showed that, perceived competencies are determinants of customer experience for retired HNWIs while this does not hold in the full sample.

## **1. Introduction**

The financial industry can nowadays be viewed as a battlefield where the players are keenly planning new ways to achieve competitive advantage. Besides increasing competition, another trend in private banking is the consumer movement from traditional branch banking to standalone, online banking. Online banking has a relative cost advantage over traditional banking but lacks some critical points that private banking clients value. These technological developments and changing customer preferences are placing demands upon the classical way that private banking to increase the amount of digitized contact with customers and the use of information technology (hereafter: IT) when physically meeting. This is done to provide superior service and seek for a competitive advantage.

Because of the loss of faith in financial institutions and their relationship managers during the recent financial crisis, high-net-worth individuals (hereafter: HNWI's) demand more transparency and simplicity (Oehler & Kohlert, 2009). A high net worth individual is a classification used by the financial services industry to denote an individual or a family with high net worth. Although there is no precise boundary of how rich somebody must be to qualify for this category, high net worth is generally quoted in terms of liquid assets over a certain figure. We use the boundary of €500,000 as generally adopted by most Dutch private banks to select their client base. In order to address these HNWI's and other client's concern's financial institutions are taking various countermeasures Both practitioners (KPMG, 2013; PwC, 2013) and researchers (Inbar Noam, 2012; Nussbaumer, Matter, & Schwabe, 2012) believe that IT is one of the measures that may facilitate more transparent financial advisory services. The trend in the financial technology (Fintech) community points to the redundancy of the financial advisor. People globally will soon be dealing with a robot for their financial affairs (Dunbar, 2016). Already, the University of Oxford places financial advisors on their list of the "Top five jobs that robots are already taking" (Frey & Osborne, 2015). Frey and Osborne's (2015) research indicates that financial analysts and advisors are being replaced by robo-advisors, driven by predictive systems, big data, and computing power. These robo-advisors are not actual robots, it is a programme that consists of algorithms that trade on the basis of customer preferences and characteristics and all other known information about that client. It is suggested that no person could process so much data and act on it that fast, and at such a low rate.

Currently, as described above, across many geographies an increasing number of financial service providers are operating with- or considering the use of robo-advisors; online advice

platforms that provide advice by complex computer algorithms (Bradbury, 2014). These roboadvisors make use of the increasing amount of behavioural data and apply algorithms that match consumers or small business with financial products or portfolios. Established traditional financial advisory firms have introduced such programmes. Vanguard and Schwab introduced a free robo-service in addition to their face-to-face human advisory, growing faster than algorithm only financial advisory firms. Other institutions added purely online advice next to their regular business model (e.g. ABN-AMRO MeesPierson's, private life eXperience). Research agency AT Kearny predicted robo-advisors will run \$2.2 trillion in assets in 2020 because of the fast-growing adoption rate of this service model among young generations. Financial decision making and thus traditional financial advice is being transformed by digitalization (Malhotra & Malhotra, 2006). A smaller step of transforming traditional financial advice is the use of IT systems and digitization by advisors. As traditional private banking is a slow adopter of new technologies these are the first step in the direction of robo-advisors. It is the merging of the digital and the physical world caused by the convergence of different technologies and electronic devices such as smartphones, tablet computers (tablets) and the social web leading to new ways of customer interaction (Leimeister, Österle & Alter, 2014). It is widely researched what technological advantages certain devices or systems give the private bank. But to a lesser extent what customers attitudes are towards this increasing digitisation. Private banking customers might not respond the same to digitisation of their service as retail banking clients. Research suggests that banking clients are divided into digital deniers, hybrid clients, mostly digital and fully digital (Cocca, 2016). The focus of this study is on hybrid clients as our subjects both have a personal adviser and use virutal banking channels to some degree.

- Digital deniers: the client has a personal adviser and does not use any virtual banking channels.
- Hybrid client: the client has a personal adviser and uses virtual banking channels for services related to wealth management.
- Mostly digital: the client has no personal adviser and more than half of his/her wealth is with an online bank.
- Fully digital: the client has no personal adviser and all of his/her wealth is with an online bank

Other characteristics of private banking clients are a relatively high age and wealth, both generally found negatively associated with attitudes towards digitisation and removing the human advisor. Therefore, implementing digitisation in the private segment is not as

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straightforward as it might seem, making it relevant to research the factors playing a role in customer satisfaction in such digital environments.

We consider HNWIs and test what the determinants of customer experience are for them and try to differentiate between the different types of HNWIs. Suggested benefits of digitization or IT-supported advisory for the private bank might not always have the same benefits for the HNWI's or even have disadvantages over the current advisory model.

The first determinant we test is perceived trustworthiness which is believed to play a central role in customer experience (Urban et al. 2000). This captures the level of trust an investor reposes in the advisor in the expectation that the advisor will act in the investor's best interest. Secondly we test perceived competencies, which captures the perceived ability of the advisor to deliver high level day-to-day operational performance. Perceptions of high operational competencies are in many studies associated with customer satisfaction (e.g. Mayer et al. 1995). Lasly we test price perceptions. Customer experience depends on derived value (Anderson et al. 1994). Therefore, even with high levels of perceived trustworthiness and competence, customers can be dissatisfied if they perceive the prices to be high (Balasubramania et al. 2003).

This study adds to the literature of private banking, customer advisory digitalization and customer experience in hybrid digitised environments. Some previous studies also conclude a massive importance gain of electronic channels over traditional channels but surveyed only digital natives (e.g., Sachse et al. 2012). Private banking's customer segment consists of largely non-digital natives so previous conclusions may not apply here. Therefore this study includes private banking clients with different digital experience and knowledge, age, educational levels, wealth and risk profiles to obtain a broader view. Although the findings and conclusions of this study can apply to other wealth management markets, it is necessary to take national characteristics into account.

Studying the perceptions of HNWI's towards digitized financial advice is relevant for two reasons. The first reason is that the customer perspective of HNWIs on digitized financial advice is so far not studied. Other scholars do not use private banking clients as their sample but survey e.g. online investors from investing platforms. The second reason is that the results of this research can be used by practitioners and policy makers to improve their decision-making ability on whether digitized financial advice is value adding for their market segment.

Starting from the analysis of the present-day embodiment of the advisory process in private banking, the views of HNWIs on extensive digitisation of this process will be the focus of this study, arriving at the following research question:

What are the determinants of customer experience for high-net-worth individuals within digitised financial advisory of private banking?

This research question will be answered after studying a sample of private banking clients from a Dutch private bank. A questionnaire was sent to circa 400 private banking clients that receive financial advice through a human advisor but also interact with their private banking through digital channels. We received 133 complete and useful observations. Scores were given to different item's that together reflect our determinants. After summating these scores to the cumulative effect of the items we tested our determinants in a multiple regression analysis while controlling for the socio-demographic aspects of the HNWIs (e.g., age and investing experience). Our results show that the determinants, have the expected influence on customer experience that we deducted from the literature. Both perceived trustworthiness and perceived competencies have a positive influence on the customer experience of HNWI. On the other hand, perceptions of high prices have a negative influence on customer experience. We find all three relations to be statistically significant. Therefore, we conclude that suggested determinants of customer experience in digitized financial advisory also play a role for the private banking customer segment. While differences among the different segments still exist, our determinants do influence customer experience as rated by HNWIs.

In the next chapter, relevant literature is reviewed on the concept of digitised financial advice and the factors determining added value. Thereafter the research methods used to study the influence that these determinants have is explained. Next, our results are presented and clonclusions are drawn.

## 2. Literature review

This chapter starts with a description of private banking and what types of digitised financial advice are provided within this market segment. In addition, it will provide a thorough understanding of the process of financial investment advice that a private bank provides. After that the effect on customer experience will be descriped and the factors determining this effect. The chapter will end with a section that depicts our hypotheses related to perceived trustworthiness, perceived competencies and pricing.

#### 2.1 The concept of digitised financial advice

This section starts with an explanation of the private banking customer segment. In addition the process of financial advisory in private banking is depicted. Next, the digitised financial advisory environment is explained with it's different service models; hybrid and fully digital.

#### 2.1.1 Private banking and financial advisory services

Private banking is for clients who possess free financial assets of at least €500,000. The reasons for investing their assets are determined by various factors. As interest rates on savings in the Netherlands are historically low (around 0.15% at the four largest banks of the Netherlands and decreasing) the effect of inflation on one's assets is larger than the interest rate it yields, effectively losing purchasing power. Therefore, some people without an investment goal will still decide to invest their money, while others are motivated by having an investment goal in mind (e.g., study-fee for children or pension plan). The reason investors pay for financial advice is due to their own lack of knowledge. Investors hire advisors to complement their knowledge on the topic by the knowledge of an advisor and the company the advisor works for. Investors expect to benefit from receiving and following advisor recommendations when the expected utility of doing so (net of fees) exceeds the expected utility of investing on their own (Chalmers & Reuter, 2015). The concept of returns to information search also plays a role in the decision of purchasing the service. According to Stigler's (1961) analysis, consumers stop searching for information at the point when the marginal cost of additional searching (time, effort, and other resources) equals the marginal benefit. Less-experienced and less-educated consumers must work hard to find and assimilate information. Therefore, this relatively higher marginal cost of searching for information may result in less searching, overall. Nonetheless, all consumers, regardless of their experience and expertise, will cease searching information when the

marginal cost equals the marginal benefit. Hiring a financial advisor may lower the marginal cost of searching for information relative to searching on one's own.

Within private banking, HNWIs get special attention from the bank and get assigned a private banker who is the first contact point for any questions. Next to the private banker the services comprises also an investment advisor if clients choose for these paid services who in theory only focusses on the investments a client has. Investment advice and personal contact are the main features of private banking that distinguishes it from retail banking. Furthermore, there are some additional service that can be identified due to the presence of the private banker, as complementary to the investment advice. Scholars have identified these services as only being significant for the HNWIs and Ultra-HNWIs (Reichenstein, 2006; Reittinger, 2006; Kurschev, 2006; Hallmann & Rosenbloom, 2009). These additional services are:

- Discretionary asset management
- Financial planning
- Complex asset allocation (Foundations, trusts, etc.)
- Estate planning
- Retirement planning
- Tax planning

Within these services, the advisory takes place in a much more complex context and is dependent on the knowledge of legal and tax-related conditions in the jurisdiction that is relevant for the customer. The degree of complexity of the legal norms and tax legislation, taking into account the constant dynamics and evolution of such provisions, is very high (Saad, 2014). Given the complexity of these requirements, and the environment within which such consultation is provided, the advisors need to possess in-depth knowledge of investment advisory, and be able to identify where and how to provide the best advice for the client (Cocca, 2016).

#### 2.1.2 The process of advisory

The classic investment advisory process in private banking (Tilmes and Schaubach, 2006; Collardi, 2012; Maude, 2010) which is utilized by wealthy clients is identified by Cocca (2016). This process rotates around the central question of "how to invest the client's liquid assets" (Bowen et al. 2008; Collardi 2012). It consists of four phases as described by Cocca (2016). First, a comprehensive analysis of the investment objectives of the client is performed. The risk profile of the client is recorded, which has a high regulatory significance. It tests suitability and appropriateness in the context of MiFID (Markets in Financial Instruments Directive) regulations. In terms of economics, the demand of the client is recorded here. Not every client is able to identify his own investment needs. The ability of identifying and formulating investment needs is a skill that distinguishes experienced client advisers. Secondly an investment strategy is defined, based on the risk profile, which determines the strategic asset allocation in the different asset classes (cash, stocks, bonds) or the relevant currencies. Thirdly, the implementation of the defined strategy by means of suitable products occurs. Continuous monitoring and rebalancing of the portfolio to the investment plan is the fourth phase.

It is very common that this beforementioned "structured advisory process" (Mogicato et al. 2009) is digitized inwardly, while the opportunities for digitizing outwardly are not yet implemented. The advisor uses internal IT banking systems that generates investment proposals, based on customer data, in which the current strategic and tactical investment opinion of analysts from the bank is expressed. Subsequently, this investment proposal is discussed with the client in a face-to-face meeting and adjusted if necessary. Currently, with the use of simulation software, the advisor can show the client how changes in their portfolio can affect their risk and return characteristics. There is room for improvement because, currently these software systems and information are only available to the advisor (Cocca, 2016). There is an interface between the customers and their advisors but there is no direct access to the bank's internal software-based systems for customers. This architecture allows for strong inward standardisation, with a high degree of perceived individualization generated by the human contact externally according to Brost (2006).

When creating an investment proposal for the HNWI, the bank's system conducts portfolio optimization that is linked to the CRM system (customer data) and the product database of the bank. The bank also provides information to the client about capital market developments, which comes from the bank's own research department or from third parties. If any development in the market requires reallocation in the portfolio, this will be proposed to the client. It is common that switching or reinvestment proposals are being displayed directly from the banking system for each portfolio on the IT system. Advisors review these systems daily and consequently communicate these proposals to the customer personally by telephone or physical appointment (Cocca, 2016).

The main form of contact with these HNWIs are face-to-face meetings in which yearly or halfyearly performance is reviewed depending on which service the client chooses. Yearly face-toface meetings and phone calls monthly throughout the year are characteristic for 'Comfort advisory'. Face-to-face meetings every six months and frequent e-mail and phone contact are characteristic for 'Active advisory'. These face-to-face meetings are of great importance also from a regulatory point of view. Yearly the client's profile (risk) and asset information must be revised and renewed with the client signing for agreement (MiFID II). Email, telephone and recently video conferencing are also forms of communication with the client but in terms of quality and density of interaction, these cannot realistically be compared with a face-to-face conversation.

#### 2.1.3 Digitised financial advice

To provide a service virtually or digitally, it must be possible to map it in software, an algorithm, or a different kind of expert system (Guinan et al. 2016). To some degree, this requires the service elements to be standardisable. The level of complexity of advisory services in the financial industry is very different. So, the degree to which the service can be provided digitally differs as well. What kind of financial advisory customers will prefer to receive advice based on an algorithm or provided in person is a question of individual preferences. It is conceivable that certain easily standardized services can be provided more cheaply by an algorithm, whereby comparative cost advantages can be achieved compared to the service provided by client advisors. Recent studies state that it is not obvious whether it is possible to capture a large market share in advisory services in such a trust-based business as wealth management by offering the service solely via algorithms. The most likely scenario is that specific issues are increasingly automated by algorithms and thus offered as a commodity, while traditional service providers could be forced into more complex advisory services to remain profitable (Cocca, 2016).

We can distinguish two different types of digitised financial advice. First, a hybrid model of a personal advisor with IT support or a combination of on- and offline service. Second, the full removal of the personal advisor and the use of a robo-advisor through algorithms.

#### 2.1.4 Hybrid models

The increasing fusion of the digital and physical world leads to new ways of customer interaction (Leimeister, Österle & Alter, 2014), induced by technology convergence, such as smart phones, tablet PCs and the social web (Brenner et al. 2014). This fusion of on- and offline channels is called channel convergence and replaces a clear separation of electronic channels (media-supported, e.g., the internet), stationary channels (e.g., local branches) and mobile channels (e.g., field service). The goal is to cope with a maximum convergence of interaction channels and technologies enabling hybrid and seamless customer interaction (Bettiga et al. 2013). Nüesch, Puschmann & Alt (2015) provide a framework that demonstrates that hybrid

customer interaction needs to consider strategic, organisational and systems related aspects. The implementation of channel convergence (fusion of online and offline channels) is complex and these system aspects need to considered. Nüesch et al. (2015) expect that hybrid customer interaction is expected to gain further importance driven by the developments in IT towards further convergence of technologies and electronic services. Having the right mix of online and line channels, may even lead to higher perceived quality by customers and increasing the loyalty of customers according to Nüesch et al. (2015).

#### 2.1.5 Fully digital advice

An increasing number of financial service providers are operating or considering the use of robo-advisors; online advice platforms that provide advice by complex computer algorithms (Bradbury, 2014). These robo-advisors make use of the increasing amount of behavioural data and apply algorithms that match consumers or small business with financial products or portfolios (Van Raaij & Van Thiel, 2017). There is a growing amount of established traditional advice firms that have introduced robo-advisors. Vanguard and Schwab for instance introduced a free robo-service in addition to their offline advice, and they are growing faster than the internet-only robo-advisors. This is a trend and research agency AT Kearny predicted roboadvisors will run \$2.2 trillion in assets in 2020 because of the fast-growing adoption rate of this service model among young generations. This will only continue to grow through the inheritance of money as most people inheriting money will be digital natives nowadays. These service models bring easy-to-use, low-cost advice services (Van Raaij & van Thiel, 2017). Therefore, they have the potential of reducing financial stress and improving financial security for mass consumers in both developed and developing countries. To be able to reach this potential, it is important to build superior customer experience to traditional bank digital advice environments for many people. Customer experience is the internal and subjective response that customers have because of direct or indirect contact with a company (Van Thiel, 2009; Verhoef, Lemon, Parasuraman, Roggeveen, Tsiros & Schlesinger, 2009).

#### 2.2 The effect on customer experience

To understand how digital financial advice can add value for HNWIs some theoretical background in customer experience is required. Generally, better customer experience means added value for that customer, but customer experience is built up from different factors determining the added value. Verhoef et al. (2009) defined customer experience as originating

from a set of interactions among a customer, a product, and a company or part of its organization, which provokes a reaction. This experience is strictly personal and implies a customer's involvement at different levels (rational, emotional, sensorial, physical and spiritual) (Van Thiel, 2009; Gentile, Spiller, & Noci, 2007,). Some scholars use service quality as a synonym for customer experience (Grönroos, 1984; Van Raaij & Van Thiel, 2017), mainly focussing on the gap between expected and perceived service quality. Grönroos (1984) already suggested that managing perceived service to each other to achieve consumer's satisfaction. Furthermore, a customer's expectations toward particular services constantly change due to factors such as time, an increase in the number of encounters with a particular service, and a competitive environment (Seth & Deshmukh, 2005). Therefore, the determinants in this research are derived from literature specifically for digital financial advice.

Digitised financial advice effects customer experience in various ways. As the experience originates from interaction with the service, digitisation changes the interaction and therefore the customer experience. Conventional dimensions are less relevant such as the physical appearance of facilities (Zeithaml et al. 2000). Scholars found that the algorithms used in digital advice are more important and that due to computing power and personalisation these are getting increasingly better. These improved algorithms give algorithms better recommendations and in turn, lead to better customer experience in terms of choice, satisfaction and perceived system effectiveness (Knijnenburg et al. 2012). However, easily standardised services can be provided more cheaply by an algorithm, it is questioned whether it is possible to provide superior customer experience in a trust-based business as wealth management by solely offering the service through an algorithm. Having the right mix of online and offline interaction with the client is most important according to scholars (Cocca, 2016; Nüesch et al. 2016), leading to higher perceived quality by customer and increasing the loyalty of customer. This relation is presented graphically below. in figure 1.



Figure 1. Effect of digitised financial advice

Previous scholars have also explored the online investing customer attitudes, Balasubramanian, Konana & Menon (2003) for instance, use customer satisfaction to represent the investor's

cumulative satisfaction with the service experience over time (e.g., Fornell 1992, Boulding et al. 1993). As Balasubramanian et al. (2003) noted, 'higher customer satisfaction, can lead to increased customer retention and loyalty, resulting in positive economic outcomes (Garvin 1988, Bolton 1998)". In the view of this study we use customer satisfaction with the service experience as a representative for added value for the customer. Customer satisfaction has traditionally been studied in the context of physical environments and human interactions. Therefore, dimensions such as tangibles, empathy and responsiveness are less applicable for completely online environments (Balasubramanian et al. 2003). Thus, researches have suggested that trust may play a central role in online customer experience (Urban et al. 2000). Balasubramanian et al (2003) also conclude that trust is a factor determining the customer experience of online investing. The link between ability and trust is established, being especially important in digital environments, where trust is formed through repeated interaction (Mcknight et al. 1998). The online advisor must induce such trust in the absence of personal relationships. "Because investors rely entirely on the trading structures and processes implemented by their brokers, an investor will repose trust only in a broker who is perceived to be competent", (Balasubramanian et al. 2003). These abilities are also defined by Van Raaij & Van Thiel (2017) in the form of advising qualities. Character traits are used as variables in assessing the advising qualities determining the customer experience. Cocca (2016) adds to the considerations by introducing service integration, as robo-advisors only offer a small portion of the range of services, and the relevance of human interaction, suggesting that human interaction is still very important for HNWIs. Considering the clients' general preference and demand for transparency (Lechner et al. 2009) transparency is a factor that is very important according to Nussbaumer & Schwabe (2012). "As financial service providers design cost structures to be highly non-transparent and thereby difficult to compare (Carlin, 2009), they are impairing the resulting service quality as perceived by clients- potentially affecting their satisfaction". It is argued that the lack of cost transparency may be a major source of client dissatisfaction.

In line with the abovementioned lack, to some extent, of human interaction and following scholars, we adopt experience-based measures of customer experience as described in the next section determining the added value for the customer. In the next section, all factors that determine the effect on customer experience according to literature will be reviewed. Thereafter in section 2.4 we will start deriving hypothesis from literature findings.

#### 2.3 Determinants of customer experience

#### 2.3.1 Perceived trustworthiness

This construct captures the level of trust a consumer has in the online service in the expectation that the service will act in the consumer's best interest (Balasubramanian et al. 2003). Trust is important in online environments because the consumer has very few tangible and verifiable cues regarding the service-provider's capabilities and intentions (Urban, Sultan & Qualls 2000). Especially in the online financial domain, while the trading interface may itself appear fast and convenient, the background processes remain largely invisible for consumers (Konana et al. 2000). Traditionally financial advisors could be objectively evaluated on portfolio returns. With these services provided online, customers must rely on the belief that online services are acting in their best interest by providing reliable information and the best prices, and executing orders correctly. Without such belief, the online consumers would be plagued by doubts, thus lowering satisfaction levels. The proposition that distrust negatively influences satisfaction is also supported by theoretical findings. According to cognitive consistency theory, consumers strive for harmony in their beliefs and behaviours (e.g., Meyers-Levy and Tybout 1989). Therefore, satisfaction is likely to be low in the absence of trusting beliefs. Balasubramanian et al. (2003) also refer to social exchange theory suggesting that "both communication openness (i.e., the formal and informal sharing of timely information and mutual disclosure) and forbearance from opportunism (i.e., acting in the spirit of cooperation and not withholding helpful action) are important in the context of successful exchange (Smith and Barclay 1997)".

#### 2.3.2 Perceived Operational competence/ability

The next construct that is included in this research is perceived operational competence/ability. This construct captures the perceived ability of the financial advisor to deliver high levels of day-to-day operational performance. This is a construct derived from experience during use, including the timeliness of trade execution or cancellation, execution at the best price, the quality of research and promptness of assistance (Konana et al. 2000). Perceptions of operational competence are particularly relevant when trust is formed through repeated interactions (Balasubramanian et al. 2003). Balasubramanian et al. (2003) also suggest that "In the online environment, perceived operational competence leads to trusts. The online broker must induce such trust in the absence of personal relationships. Because individual online investors rely entirely on the trading structures and processes implemented by their brokers, an

investor will repose trust only in a broker who is perceived to be competent. In their research, Balasubramanian et al. (2003) findings supported this abovementioned suggestion that operational competencies positively influence the trust in the online service.

Next, also consider the impact of operational competence on customer experience. For offline environments, it is common knowledge that quality of services is a key determinant of customer satisfaction and customer loyalty (Caruana, 2002; Cronin and Taylor 1992; Kelley and Davis, 1994; Parasuraman et al. 1988). Recent empirical evidence shows that this holds true also for electronic service providers. The quality of services delivered through a website has become a more significant success factor than low prices or being the first mover in the market space (Mahajan et al., 2002; Reibstein, 2002; Shankar et al., 2003). Smith and Barclay (1997) that operational competence positively influences mutual satisfaction in determined partnerships. Other studies (e.g., SERVQUAL and derivative research) also reinforce the relation of reliability and competence as key dimensions along which services are evaluated for quality (Parasuraman et al. 1998). Digital advisors with sophisticated back-end systems will potentially be able to provide more timely trades and feedback. Rapid execution and feedback provide investors with instant gratification, which is a key component of utility derived from online investing (e.g., Barber and Odean 2000). According to Balasubramanian et al. (2003) the act of observing the immediate execution of transactions and the ability to monitor the economic impacts of decisions in real time can lead to investors' excitement and satisfaction. Van Raaij & Van Thiel (2017) support these suggestions but do not limit the construct to only online only services, their construct applies to fully online- and hybrid models. Instead of operational competence they identify a similar construct: advising qualities. Perceptions of advising qualities is closely allied to perceptions of operational competence. In their research, Van Raaij & Van Thiel (2017) provide a cross-cultural set of structurally related factors and their attributes that explain customer experience of digital financial advice systems. This model is developed as a tool for validating the customer experience of digital and hybrid financial systems.

#### **2.3.3 Price perceptions**

The construct suggested by many studies that review customer experience in general and in digital financial advisory services is price (e.g., Balasubramanian 2003., Van Raaij & Van Thiel 2017). Fully digital advisory is often cheaper as it requires no human advisor's salary to be paid and more clients can be adviced at once. However, it is not always the amount that is relevant for consumers, especially in the market segment of HNWI's, price is subjective. Even with high

levels of perceived trustworthiness and competence, customers can be dissatisfied if they perceive the prices to be high (balasubramanian et al. 2003).

Customer satisfaction depends on derived value (Anderson et al. 1994), where value may be defined as the "fairness of the level of economic benefits derived from usage in relation to the level of economic costs" (Bolton & Lemon, 1999). It is claimed that a study of satisfaction/customer experience is incomplete without incorporating the investor's evaluation of prices paid for services (Balasubramanian et al. 2003).

#### 2.3.4 Personal characteristics of advisor

A client advisor is very important in influencing whether the client decides to have a long-term relationship with the bank or not while the assignment of an advisor is largely random and unsystematic in today's environment (Cocca, 2016). In private banking, customer acquisition primarily takes place through referrals (Maude, 2010). This means that customers share their own perceptions and experiences in their social network. In this process both professional and interpersonal characteristics play a role. The assessment of what makes a good advisor is therefore individual and subjective.

#### 2.3.5 Perceived ease of use and perceived usefulness

Perceived ease of use and perceived usefulness are derived from the Technology Acceptance Model (TAM) which is an information systems theory that models how users come to accept and use a technology, developed by Davis (1989). In Date et al. (2013) TAM is used in combination with perceived ease of use and perceived usefulness to explain internet banking adoption. TAM is one of the most influential extensions of Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) and the Theory of Planned Behaviour (TPB) (Ajzen, 1985), which have long provided useful conceptual frameworks for dealing with the complexities of human social behaviour. The main idea of the TAM is to describe the external factors affecting the internal attitudes and use intentions of the users and, through these, to predict the acceptance and use of the system. The goal of TAM is to provide an explanation of the determinants of computer acceptance, which is in this research applied for financial advice. TAM involves two primary predictors for the potential adopter - perceived usefulness and perceived ease of use of the technology as the main determinants of the attitudes toward the technology. Next to these two predictors, three other factors deducted from behaviour theory are included in the model used by Safeena et al. (2013). These are: attitude, subjective norm and perceived behavioural control, and are described as follows in their paper. "Attitude toward a behaviour is the degree

to which performance of the behaviour is positively or negatively valued. It is determined by the total set of accessible behavioural beliefs linking the behaviour to various outcomes and other attributes. Subjective norm is the perceived social pressure to engage or not to engage in a behaviour. Subjective norm is determined by the total set of accessible normative beliefs concerning the expectations of important referents. Perceived behavioural control refers to people's perceptions of their ability to perform a given behaviour. Perceived behavioural control is determined by the total set of accessible control beliefs, i.e., beliefs about the presence of factors that may facilitate or impede performance of the behaviour". Safeena et al. (2013) implement TAM for internet banking and find results supporting the hypothesis that perceived ease of use and perceived usefulness have a positive effect on the customer attitudes towards using internet banking. The intention to use is a certain behaviour that deducted from abovementioned theory, only performed if the act of that behaviour adds value to that person.

#### 2.3.6 Total experience

Customer experience encompasses the total experience, including the search, purchase, consumption, and after-sales phase of the experience. Therefore, digital financial advice involves multiple retail channels, as the advice models will be both digital-only and hybrid systems. The holistic view on the total customer experience of information search, purchase, and after sales are important to understand as they all influence the level of satisfaction (Verhoef et al, 2009). Van Raaij & Van Thiel (2017) build on this thought, by suggesting that although traditional financial institutions underinvest in customer experience, hedonic experiential aspects of the customer experience in digital financial advice models are just as important as functional factors. Building on these arguments we have to regard the total experience with its hedonic experiential aspects as being a relevant factor determining the effect on customer experience.

After describing all determinants of customer experience, we can expand figure 1 to the graphical representation of all factors in figure 2. Deducting from different theories and different studies these are the dominant factors in the reviewed literature.



In line with other scholars (e.g., Balasubramanian et al. 2003, and Van Raaij & van Thiel 2017) we will test only the three factors; trust, competencies and price. Measuring the total experience would not be possible in a survey due to vagueness of this construct. In the next section, we will build from the theoretical arguments of other scholars and develop our own hypotheses.

#### **2.4 Hypotheses**

As mentioned before, the different factors should not be seen as competing perspectives, but rather as different ways in which the effect on customer experience is influenced. In line with other studies on customer perceptions in digital environments we will develop hypotheses about the relationship of determinants and customer experience bases on the different theories and explanations outlined in the previous section.

#### 2.4.1 Hypothesis 1: Trust

This construct captures the level of trust an investor has in the advice in the expectation that the advisor will act in the investor's best interests. Trust as a factor is also used by Balasubramanian et al. (2003), Van Raaij & Van Thiel (2017), Urban (2000) and Cocca (2016). Consistently with the definition of Mayer et al. (1995) "the willingness of a party to be vulnerable to the actions of another party based on expectation that the other will perform an action important to the trustor, irrespective of the ability to monitor or control that other party." Trust is key in wealth management. Advisory only has perceived value when the advised party has a strong sense of trust (Cocca, 2016). Previous interviews and survey feedback (Balasubramanian et al. 2003) show that investors who believed their online broker was not aligned with their interests were frequently dissatisfied. The proposition that distrust can detract from satisfaction is also

supported by theoretical findings. As mentioned before, following cognitive consistency theory, satisfaction is likely to be low in the absence of trust. Similarly, trustful handling in a relation is important in the context of successful exchange (Smith & Barclay, 1997). Drawing from these arguments and findings in similar studies we have an a priori idea about the sign of the relationship. It is hypothesized that:

H1: Trust positively influences customer experience.

#### 2.4.2 Hypothesis 2: Competence

In recent research this factor has been explored in different ways by scholars. (Van Raaij & Van Thiel, 2017; Balasubramanian et al. 2003). In the framework for evaluation of digital financial advice, the evalution of the system is driven by a user's perception of the system in terms of outcome-related, system-related and process-related aspects. System aspects as accuracy and personal aspects influence customer satisfaction (Knijnenburg et al. 2011; Knijnenburg & Willemsen, 2009). As mentioned above the SERVQUAL study and derivative suggested that reliability and competence are key dimensions along which services are evaluated for quality (Parasuraman et al. 1988). Balasubramanian et al. (2003) build on this and tested whether perceptions of operational competence influences customer satisfaction. They find that the perceived competence of an online broker leads to increased satisfaction. Based on this reasoning we propose the following hypothesis:

H2: Perceived competence has a positive influence on customer experience.

#### 2.4.3 Hypothesis 3: Price

As mentioned above price plays a role in many studies reviewing customer experience. However, it has not been tested for the private banking sector specifically, and therefore making an interesting factor to test. One could argue that due to the amount of wealth these persons possess prices are less relevant. But, as pricing models are mostly percentages of the assets under management, clients can still view the rate as unfair. Anderson et al. (1994) argue that customer satisfaction depends on derived value, where value may be defined as "fairness of the level of economic benefits derived from usage in relation to the level of economic costs" (Bolton & Lemon, 1999). The price as perceived by the client can thus be too high relative to what the client is expected to gain from usage of the service. Therefore, the following hypothesis has been formulated.

H3: Perceptions of high prices negatively influence customer experience.

## 3. Research methodology

In this chapter the research approach of this study is elaborated in more detail. We will describe how we use survey research and what the content of our questionaire is. In addition, the different variables in our model will be operationalized. Next we will outline our analytic strategy and the assumptions for using these methods. This section ends with an elaborate description of our sample.

#### 3.1.1 Survey research

To get insight in whether digitised financial advice adds value for HNWIs and what the determinants are, we need to acquire direct information from the HNWIs. In order to do this, we will use survey research, a commonly used method of collecting information about a population of interest (Visser, Krosnick & Lavrakas, 2000). There are several methods to collect data for a survey research such as self-administered questionnaires, interview surveys, telephone surveys or online surveys. According to Babbie (2010), a questionnaire is a document containing questions and other type of items designed to solicit information appropriate for analysis. A questionnaire is general a technique of data collection in which each person is asked to respond to the same set of questions in a predetermined order (Saunders et al., 2009). This method is most dominant in gathering data of customer experience of banking clients (Safeena, Date Hundewale & Kammani, 2013; Bauer et al. 2005; Balasubramanian et al. 2003). The questionnaire of this research is designed as an online questionnaire which is completed by the respondent. This is the most effective method for our research, as HNWIs are very private persons. Interviews for instance are out of the question because this method would reveal the identity of the respondent. By using the above described survey method, we can acquire lots of information from many HNWIs in an anonymous way. Collecting investor perceptions using an online survey gives the opportunity to capture investors' perceptions of the multiple constructs while they remain anonymous, which is very important in the private banking sector. HNWIs generally appreciate their privacy highly.

With the questionnaire, quantitative data is collected and can be analysed quantitatively to suggest possible reasons for relationships between variables. This data consists of observations which are made by asking HNWIs their opinions on statements and questions. The survey is going to be administered at one-point in time. Consequently, this study is a cross-sectional study since it is based on observations representing a single point in time (Babbie, 2010). The survey research in general has some weaknesses such as the use of standardised questionnaire and the

inflexibility during the research (Babbie, 2010). However, for this particular study, taking into account the appreciation of anonymity and privacy of HNWIs a questionnaire is the most viable method. Researching a large population without taking too much time, effort and budget is best done with the use of survey research (Visser et al. 2000). The survey strategy can be time consuming since it is necessary to ensure that the sample is large enough. How large the sample needs to be and why this is chosen will be outlined in the sample section.

#### 3.1.2 Pilot

The next important part in the research design is pilot testing of the data collection instrument, the questionnaire. A well designed and pilot tested data collection instrument is necessary to get a good response rate (Babbie, 2010). It helps identify questions that don't make sense to participants, or problems with the questionnaire that might lead to biased answers. For pilot testing our questionnaire we used ten persons that are close to the target group. This is in line with suggestions from scholars about who to choose as a pilot group (Visser et al. 2000). Investment advisors plus their manager with each many years of experience and who know their HNWI-clients best tested the questionnaire. Each of them first read the request of participation in this study which would be sent to the HNWIs. These advisors know how to address these clients best and therefore gave their opinion about how the HNWIs should be requested to participate in this study to maximise the response rate. Secondly this pilot group completed the survey to test the logic of questions, the spelling, and whether questions might be too forward for certain HNWIs. As the investment advisors explain: "If questions are too forward, respondents might be hesitant to fill in the questionnaire further", consequently endangering the response rate of the study.

After this thoroughly testing of the survey and the method of requesting for participation in this study, the survey was finalized and the time frame for the collection of data was set. As during the summer holiday period people are less likely to respond we will close our survey before the first of July. We started collecting data the day after the ethics committee of BMS accepted our application. To ensure an ethically responsible research practices, employees and students from the Faculty of BMS can start research with human beings only after their research proposal has been ethically assessed.

#### 3.1.3 Response rate and request for participation

With the help of the partner company their clients will be contacted to participate in the survey. Respondents will be made aware by email of an online survey and relevant information about this study by their investment advisor. To conduct this research, we depend on the willingness of people to respond to this questionnaire (Baruch, 1999). The importance of the questionnaire as an instrument for data collection in sciences is widely recognized. But as a grounded base for researchers to support or reject their hypothesis, which we are trying to accomplish, the information needs to be comprehensive and representative. Using a questionnaire as a research instrument rarely provides a full set of data- only in the case of 100% response rate. It is up to the target population to decide whether or not to respond. The importance of the response rate is to have dependable, valid and reliable results, which require a high response rate from a wide representation of the whole population under study (Baruch, 1999). It is not clear however, how high the response rate needs to be. Much study has been done on the variables which impact the level (Heberlein & Baumgartner, 1978; Kelsall, Poole, & Kuhn, 1972). According to Baruch who reviewed 175 studies however, there is no agreed norm as to what is or what may be received as an acceptable, reasonable response rate (and subsequently, what is unacceptable). By having their investment advisor asking the HNWIs to participate in the study we expect to get a much larger response rate (about 40%) than normally would be expected when doing a standard external survey, where a 10-20% response rate is normal (Haggett & Mitchell, 1994; Gendall, Hoek, & Esslemont, 1995). The emails that will be sent individually to all the HNWIs separate will include, a personal message of the advisor requesting their participation in the study and the forwarded email that I sent the advisors which is the original request for participation in the study.

#### 3.1.4 Content of the questionnaire

The survey is built upon two categories of questions. The first category entails questions about socio-demographic aspects of the respondents, such as gender, age, education level, amount of assets, investing experience and investment risk level. Respondents were asked to fill in their gender. Next is age, which is divided in four groups. Age will have different intervals as drawn from similar studies as Balasubramanian et al. (2003). Because private banking clients have very different sociodemographic characteristics than regular banking clients our intervals are slightly different. To have an even spread over all age categories we differentiate between; 1=0-50 years, 2=51-65 years, 3=66-80 and 4=>80. The first category is very large due to a lack of private banking clients with low ages. For the variable education, respondents are asked to check a box indicating their level of education. For this purpose, the standard answer possibilities are used (1=high school graduate, 2=vocational degree, 3=university of applied sciences degree and 4=Master's degree). The values correspond with the values that private

banking clients fill for regulatory purposes. MiFID II regulations require private banks to have this information in the client profiles that are revised yearly. For the amount of assets respondents can fill in to which category they belong. (1=0,5M-1M, 2=1M-2M, 3=2M-4M, 4=4M-8M, 5=>8M) These categories are chosen based on how the spread of clients is to resemble the whole population and have an even distribution among the categories and no categories are empty. Regarding the risk profiles of respondents, we will use the standard private banking profiles in line with MiFID II regulations. These are: 1 defensive, 2 mediocre defensive, 3 mediocre offensive, 4 offensive and 5 very offensive. The risk profile 'very defensive' also exist but, none of the clients of the private bank in that area used this risk profile so we could exclude this from our survey. These risk profiles determine the asset allocation of stocks, bonds, alternative investments and liquidities. According to scholars (e.g. Cocca, 2016; Balasubramanian et. al, 2003; Van Raaij & Van Thiel, 2017) these socio-demographic aspects influence the effect of digitised financial advice on customer experience.

The second category of questions is related to the effect and its determinants, the customer experience of digitized financial advice and the factors determining it as deducted from past literature. The three determinants of interest are trust, competencies and price. The questions will be used to measure the variables as described below. Each variable is measured through one or more questions that contain statements. Respondents are asked to indicate their opinion on a 5-point Likert Scale ranging from strongly agree (5) to strongly disagree (1). This type of scale for measuring customer perceptions of service is used and suggested by scholars from financial and other fields (De Jong, Mertens, Poel & van Dijk 2016; Parasuraman et al. 1988; Konana & Balasubramanian, 2003; Balasubramanian et al. 2003). Likert scales are used to capture opinions of respondents and quantify them to allow quantitative analysis. The 5-point Likert scale is a conventional rating scale and Likert scales are the most widely used scales in survey research, whilst extensively researched on their reliability and validity. As both five and seven point Likert prove to be worthy measurement scales, there are some differences for bipolar and unipolar scales (Visser et al. 2013). For bipolar scales, reliability and validity are highest for about seven points (e.g., Matell & Jacoby, 1971; Visser et al. 2013). In contrast, the reliability and validity of unipolar scales seem to be optimized for a bit shorter scales, approximately five points long (Wikman & Warneryd, 1990; Visser et al. 2013). Techniques as magnitude scaling, which offer scales with an infinite number of points, yield data of lower quality than do more conventional rating scales and should therefore be avoided, hence our choice for the conventional Likert scale (Miethe, 1985; Visser et al. 2013). We chose for agreedisagree scale points as many studies suggest that data quality is better when all scale points are labelled with words than when only some are according to Weng (2004) (as in Visser et al. 2013). Furthermore, per Dickinson & Zellinger respondents are more satisfied when more rating scale points are verbally labelled (as cited in Visser et al. 2013). This is crucial as we do not want to damage the client-private bank relationship by conducting this study. In the next section, we will go further into depth how the different variables are measured and how these can be used to test our hypotheses.

#### **3.2 Variables**

In this section the different variables used in our study are explained and operationalized. For every variable, we will explain how the variable is measured. The variables of interest for our hypothesis are in bold while the control variables of this study are mentioned afterwards. We mention what the reliability of the scale is using Cronbach's alpha and how our items fitted the factors.

#### (Dependent variable) Customer experience

To measure the overall customer experience with the digital financial advice service we use two items in line with Balasubramanian et al. (2003). The respondent's willingness to provide worth-of-mouth recommendations and the overall satisfaction with the service, which proved to be reliable items. In their research the Cronbach's alpha for the scale was around 0.9 in two samples and confirmatory factor analysis for convergent validity indicated that a single factor solution fitted these two items acceptably. We performed a factor analysis on these two items to confirm their use in explaining the factor customer experience for HNWIs.

#### **Perceived Trustworthiness**

To measure the trust of respondents in the advice service four items are used drawn from different scholars, some even placing trust at the center of digital strategy (Balasubramanian et al. 2003; Cocca 2016; Urban et al. 2002). Whether the advisor has the best interest of the investor in mind, has a reputation for fair practices, is truthful about the costs and provides the best prices are all used in the survey. These items are deducted form Balasubramanian et al. (2003) where the resulting scale had a Cronbach's alpha of 0.8 and confirmatory factor analysis indicated that a single factor fitted the items. We performed a factor analysis on the HNWIs and also extracted one factor (Eigenvalue>1)

#### Perceived operational competence

The six items used to measure investor perceptions of the competencies of advisors are the availability of timely and accurate stock market information, the quality of stock market research, the timeliness of order execution, the availability of a wide range of services, the ease of use of the interface and the number of steps required to execute a transaction. These items are borrowed from Balasubramanian et al. (2003) who draws from the Technology Acceptance Model (TAM), Davis (1989) and from SERVQUAL (e.g., some of the items related to reliability and responsiveness), modified to the context of digitised investing. Van Raaij & Van Thiel (2017) suggest that the factor advising qualities, which is similar to competencies in this research, is built up from similar items. Next to the items to measure competencies as mentioned above, they also use more personal items as e.g., helpfulness, friendliness and empathy. These will not be included as we want to measure the competence to evaluate the service (balasubramanian et al. 2003) and not focus on the personal traits of a human advisor in hybrid advisory systems. The resulting scale had a Cronbach's alpha of 0.76 in previous research and confirmatory factor analysis extracting a single factor from the samples in line with our factor. For our sample, we performed a factor analysis on the items to check whether they fit the construct.

#### Price

To measure the perceptions of prices charged for advisory services we will use one item. Where high prices negatively influence satisfaction and value for the consumer (Anderson et al. 1994; Balasubramanian et al. 2003), we will use the overall commission rates charges perceptions as the measure for price perceptions following Balasubramanian et al. (2003).

#### **Control variables**

As mentioned before, according to scholars, the sociodemographic aspects of HNWIs influences their attitudes towards digitised financial advice (Cocca, 2016). It is argued that different age and knowledge affect their judgement. In order to obtain clear results, it is important that we control for these effects. On the other hand, these variables give us interesting information about how digitised financial advice possibly adds value and the determinants of this effect. We control for age, as Cocca (2016) finds that for older persons, a human adviser is more important. The higher the level of expertise, the higher the affinity for technology (Cocca, 2016), therefore we control for education level and investing experience as these are likely to

have an influence. We control for the amount of assets under management because, the wealthier the person, the more important a human adviser is (Cocca, 2016). And following the MiFID II and banking interest the risk profiles of clients are included. This is placed into context as Cocca (2016) found that the lower the risk aversion, the higher the affinity for technology for HNWIs.

#### **3.3Analytic strategy**

In this section the methods of analysis to test our hypotheses will be explained in order to answer our research question. We will outline how we arrived at our model with it's assumptions and address the reliability of our measures through factor analysis.

#### 3.3.1 Continuous Likert scale data

The choice for a statistical technique is dependent on what data is present. Through our survey with score answers on Likert scales, we will receive data made up from numbers that are in fact sets of ordered categories. However, there is discussion about whether these ordered categories can be used in parametric statistics. Some scholars claim that the intervals between the scale values are not equal and therefore, any mean, correlation or other numerical operation applied to them is invalid. Only nonparametric statistics should be used on Likert scale data (e.g., Jamieson, 2004).

On the other hand, other scholars suggest that Likert scale items can be used in parametric tests in situations. For example, Lubke & Muthen (2004) found that it is possible to find true parameter values in factor analysis with Likert scale data and Glass et al. (1972) found that F tests in ANOVA could return accurate p-values on Likert items under certain conditions.

In our case, we have ordinal predictor variables. These have to be treated as either nominal unordered categories or numerical. In the former case, we would throw away information about the ordering. In the latter, we are making assumptions about the differences between the scale items but these can be justified as we use five values and multiple items (Lubke & Muthen, 2004). With our multiple items per different factor, each need to be answered by Likert scale responses and consecutively, all the values of items that related to the same factor can be added and used in a multiple regression analysis (Allen & Seaman, 2007). We follow other scholars as Balasubramanian et al. (2003) in this who also use scale data for customer satisfaction in regression models.

#### 3.3.2 Factor analysis

After describing our factors in section 3.2 we are going to asses the validity of construct measurements with factor analysis. This test identifies underlying dimensions (factors) that explain the correlations among a set of variables. The factors we test are derived from previous literature that determined their relevance (van Raaij & van Thiel, 2017; Balasubramanian et al. 2003; Urban & Qualls, 2000; Cocca, 2016). The next step is the validation of factor analysis as generalizability is critical for each multivariate method (Hair et al. 2010). Balasubramanian et al. (2003) have already performed this analysis on their measures and concluded that the data fitted the measurement model in a similar setting to ours, but for a different sample. Therefore, we performed our own factor analysis to test whether the assumption that the measures reflect the constructs still holds. We use Bartlett's test of sphericity to make sure that variables are correlated in the population, if the null hypothesis cannot be rejected, the appropriateness of factor analysis was questioned. Another used statistic is the Kaiser-Meyer-Olkin measure of sampling adequacy. Small values of the KMO statistic indicate that the correlations between pairs of variables cannot be explained by other variables and that factor analysis may not be appropriate. We use a principal component analysis, where the total variance in the data is considered. Consequently the varimax rotation method was used to enhance the interpretability of the factors.

#### 3.3.3 Assumptions of linear regression

To assess the reliability of our scales, consisting of different items, we tested Cronbach's Alpha. Our two measurement items for customer experience give an  $\alpha$  of 0.394. This is problematic as usually the lower limit is set at 0.70 for a scale to be reliable. This score indicates a low internal consistency and we therefore decide to cut customer experience item number 2 because of its higher standard deviation. After discussion with the manager a possible explanation was suggested. Measuring how likely respondents are to recommend the service to people they know might reflect the possible satisfaction of other people. It might be the case that the respondent does not know people suited for the private banking services. While measuring the overall satisfaction of the respondent reflects his own opinion from experience. The items that measure our perceived trustworthiness test a Cronbach's Alpha of 0.713 and would only get lower if we delete items. This  $\alpha$  makes us assume that the items for our scale are reliable enough. Furthermore, we tested the Cronbach's alpha of our competencies construct, where the

perceived competencies of the advisor and private bank are measured. This reliability score is on the edge with 0.683 as scholars find <.50 unreliable and >.70 reliable (Nunnaly, 1978). Deleting items will not lead to a higher  $\alpha$  in our case. Next we will discuss four key assumptions of linear regression that we have checked.

Firstly, we have to check if multicollinearity is present to ensure valid results about any individual predictor variable. Multicollinearity is a phenomenon in which predictor variables are highly correlated, meaning that one can be linearly predicted from the others with a substantial degree of accuracy. To quantify the severity of multicollinearity one can calculate the variance inflation factor (VIF). VIF provides an index that measures how much the variance of an estimated regression coefficient is increased because of collinearity. A rule of thumb from scholars (e.g., Hair, Anderson, Tatham & Black, 2006) is that VIF>10 then multicollinearity is high. Others mention that VIF scores over five can already be reason for doubt. Secondly, there must be a linear relationship between the outcome variable and the independent variables, in the appendix we show a plot of the standardized residuals versus the predicted Y values that show a our data points indeed follow a linear relationship. Thirdy, we have checked if heteroscedasticity was present, the plots belonging to this test can be found in the appendix. From these plots, we conclude that the observations are rather homoscedastic as the observations are not fanning out towards the top right corner of the plot. Lastly, we checked the normality of the residuals, of which the plots can be found in the appendix. If the error distribution is significantly non-normal, confidence intervals can be too wide or too narrow.

#### 3.3.4 Multiple regression

To analyse the relationship between the determinants/factors and customer experience, different research methods are used. Regression analysis is widely used in Financial research for estimating the relationships among variables. It includes many techniques for modelling and analysing several variables, when the focus is on the relationship between a dependent variable and one or more independent variables (or predictors). As we argued above, our Likert scale data can be treated as being continuous trough calculating the sum scores of our multiple measurement items, this discussion is in section 3.3.1. Following these scholarly findings on treating Likert scale data as continuous (e.g.Lubke & Muthen 2004; Glass et al. 1972) and similar research on customer experience (e.g. Balasubramanian 2003) the relation between the customer experience and the factors can be tested with multiple regression analysis. The full regression model that will be tested is as follows:

Customer experience<sub>j</sub> =  $\beta_0 + \beta_1$  Trust<sub>j</sub> +  $\beta_2$  Competence<sub>j</sub> +  $\beta_3$  Price<sub>j</sub> +  $\beta_4$ Age<sub>j</sub> +  $\beta_5$  experience<sub>j</sub> +  $\beta_6$  Gender<sub>j</sub> +  $\beta_7$  Education<sub>j</sub> +  $\beta_8$  Portfolio value<sub>j</sub> +  $\beta_9$  Risk profile<sub>j</sub> +  $\varepsilon_j$ 

In this model the  $\beta_0$  is a constant and  $\beta_1$ .  $\beta_9$  represent the regression coefficients. The linear variable 'trust' aims to answer the first hypothesis which is that perceived trustworthiness positively influences the dependent variable. The variable 'competence' is the summated score of six items and is used to test the second hypothesis that perceived operational competence positively influences customer experience. The last variable used to test a hypothesis is 'price'. This variable tests the hypothesis that perceptions of high prices negatively influence customer experience. The inclusion of a few control variables is necessary as scholars (e.g. Cocca, 2016) suggest that different social groups attitudes towards digitised financial advice differ. These control variables will be added as dummies to represent different social groups (e.g. retirees or experienced investors).

#### **3.4 Sample**

The subjects of this study are the clients of a private bank in the Netherlands. With the help of the investment advisors of this private bank the sample will be collected and their clients (HNWIs) will be the respondents. These clients come from all age groups but will be dominated by people over 50 years old as these are most prominent in private banking. Age was previously included in research to digital advice attitudes by Cocca (2016). He found that age is expected to negatively influence a HNWI's view on digitized advice and use of IT-supported advisory as, the older a person gets, generally the more important a human advisor is and the lower technological affinity. Showing that, for younger private banking customers, online financial services have become even more important than personal contact. Therefore, it is important to distinguish the age groups within the sample.

As the client base of the private bank is dominated by males, the sample is expected to have a higher percentage of males than females. There are also other reasons why we expect the sample to be dominated by males. For example, conjoint investment accounts (meaning husband and wife together) males are more likely to handle the administration of that account and thus are more likely to fill in the questionnaire instead of their partner. Also, among private banking clients, males have generally higher affinity for technology (Cocca, 2016) therefore we expect them to participate in the digital questionnaire more often.

All respondents have one thing in common, they all receive digital financial advice, either through a hybrid interaction or fully digital. As not all clients are as familiar with technology and digital attributes the private bank adapts to that, providing one client for instance information by mail and another by a fast e-mail.

Since the client base of the Dutch private bank encompasses circa 2000 customers we have an opportunity to collect a sufficiently large sample. However, only 400 of those are advisory clients, the others only receive asset management services. Most of the times, investment advisors have a long relationship with the clients. Therefore, the advisors can assist in contacting their clients to ensure a large enough sample size. Six advisors of the private bank agreed to help in requesting their clients to participate in the study. Afterwards, two of those backed out for different reasons, making it harder to collect a sample. However, as they are very careful with the relations with clients not all clients are sent an e-mail with the request for participation. The advisors know the clients personally and only sent a request to clients that they thought were willing to participate in this study, therefore limiting how many requests were sent out.

We were aiming for a sample size of at least 100 observations but received 143 responses. Of these, only 133 were usable. Sample size is very important because, it dictates the amount of information we have and in part determines our precision or level of confidence that we have in our sample estimates. We had a discussion with the management of the private bank and confirmed that the average portfolio values and other sample details approximately matches those of the overall customer base.

## 4. Results

In this section, the results of the different analyses will be discussed. Firstly, an overview and an explanation of the statistics related to the respondents and the descriptive statistics will be provided for the full sample.

#### 4.1 Descriptive statistics

Table 1 provides the descriptive statistics of our sample. The responding HNWIs are more often males (88%) than females (12%). Cocca (2016) suggests that males are more often using digital channels for financial matters than their female counterparts and are therefore more likely to fill in this survey. The bank confirms that they have similar percentages of males (80%) and females (20%). The age of the respondents is often between 51-65 (43.6%) and 66-80 (39.1%) as was expected from private banking clients. Managers at the private bank state that their average client is about 65 years old which corresponds to our findings. Cocca (2016) also

Characteristics	Category	Frequency	Percent
Gender	Male	117	88.0
	Female	16	12.0
Age	0-50	15	11.3
	51-65	58	43.6
	66-80	52	39.1
	>80	8	6.0
Experience	0-1 year	2	1.5
*	1-3 year	5	3.8
	3-6 year	6	4.5
	6-10 year	16	12.0
	>10 year	104	78.2
Education	High school	9	6.8
	College	24	18.0
	Bachelor degree	44	33.1
	Master degree	56	42.1
Portfolio value	0.5-1M	48	36.1
	1-2M	33	24.8
	2-4M	20	15.0
	4-8M	13	9.8
	<8M	7	5.3
	No disclosure	12	9.0
Risk profile	Defensive	5	3.8
-	Medium defensive	27	20.3
	Medium offensive	39	29.3
	Offensive	45	33.8
	Very offensive	17	12.8

Tuble I building building the related to respondence (1)=100	Table	<b>1</b> Summary	statistics	related to r	espondents (	(N=133)
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suggest that the older a person is, the less likely he/she is to be a digital native and therefore less likely to fill in this questionnaire, hence the smallest category is people above 80 years old, but this might also be partially explained this is not the largest client segment in private banking. The investing experience of respondents is very often more than 10 years (78.2%) with the second largest category 6-10 years experience (12.0%). This is not unthinkable with the high average age that is stated above. After discussion with the managers and advisors of the private bank we learned that most clients have been involved in investing a long time, which can be explained by the size of their assets. When possessing over  $\notin$ 500,000 people generally are actively involved in managing and investing these assets according to them. The educational background of the respondents is largely high, with 33.1% of respondents having a bachelor's degree and 42.1% a master's degree. There was an option to fill in education level as "lower than high school" but this option was never used by respondents. It was added beforehand on suggestion of managers from the bank but deleted afterwards.

Another suggestion from managers of the partner company was to include the option to not disclose the value of the portfolio. It was suggested that respondents might be sceptical that if they disclose the value of the portfolio that in combination with other characteristics their identity might be tracked. However, this thought is unlogical as this study is for academic purposes and will not be used to try to find out the identity of certain respondents. After discussion we decided to follow the advice of the managers and add the option of, not filling in the portfolio value because otherwise those people might be reluctant to fill in the questionnaire. As can be seen 9% decided to use this category which might otherwise decrease our sample size by 9%. The majority of the respondents score in the three lowest portfolio value categories which are respectively 0.5-1 million (36.1%), 1-2 million (24.8%) and 2-4 million (15.0%). The high amount of respondents in the 0.5-1 million category can be explained by the recent extension of the private banking segment in 2016. Before 2016 the lower limit of private banking was one million euro. But since private banks can only grow by three options, economic growth, organic growth or takeovers, or make the market segment bigger, they decided the third option. Currently the private bank has a lot of clients who made this transition and are in a project called "Duurzame klantengroei", which means sustainable extension of the client base. The risk profiles are very dispersed among the respondents; 'very offensive' (12.8%), 'offensive' (33.8%), 'medium offensive' (29.3%), 'medium defensive' (20.3%) and defensive (3.8%). Very defensive is also an option HNWI can choose from but no client has this risk profile according to the bank's systems. The risk profiles of clients are easily explained. Defensive and very defensive are very non-popular risk profiles as they are expected to generate

negative returns effectively. This is due to the calculation method, which uses a price-inflation rate of about 2% and the costs of advisory services of about 1%. The expected return and benchmark for the risk profile very defensive is 0.7% which does not even cover the costs. A defensive risk profile is expected to yield a 2.1% return which therefore is lower than the costs of advice and the price-inflation rate the private bank uses. Therefore, in the scenario analyses the private bank makes these low profiles will yield negative effective returns and never lead to a high chance of achieving the investment goals of clients.

Factor	Variable	% Agree (4 or 5)	% Disagree (1 or 2)	Mean rating	H:0 mean rating $=3$
Customer experience	Satisfaction	82.8	3.8	4.0	***
Trust	Truthful	76.7	1.5	3.9	***
	Interest	85.7	3.0	4.0	***
	Fair	85.7	2.3	4.0	***
	Best price	38.4	6.0	3.4	***
Competencies	Accurate	48.9	6.0	3.4	***
	Quality	60.1	3.8	3.6	***
	Timely	81.9	0.8	4.1	***
	Wide range	73.0	3.0	3.8	***
	Easy to use	76.0	3.8	3.8	***
	Steps	57.2	4.5	3.6	***
Price	Commission	50.4	4.5	3.5	***

Table 2 survey responses to the statements rating financial advisory (N=133)

The last column shows the results of a t-test with the null hypothesis that all mean ratings are 3 (neutral). For a full description of the variables see 3.2.

Table 2 contains the responses of the HNWIs on various statements. As described in section 3.2 we used 12 variables to measure the underlying factors of interest. For each variable the respondents filled in to what extent they agreed (5) or disagreed (1) with the statement (see appendix C for the complete statements). In column 6 we added the results of a t-test of the null hypothesis that each average response is equal to 3, with \*\*\*, denoting rejection at the 1% level. Table 2 reveals that 82.8% of HNWIs are overall satisfied with their digitised financial advisory while only 3.8% is unsatisfied. In addition, their rating is statistically higher than 3 (neutral). Not all variables of trust are agreed upon, truthfulness (76.7%), best interest of investor in mind (85.7%) and fair practices (85.7%) score high, while the best price for orders scores lower (38.4%). However, all variables of trust are significantly higher than neutral and only 1.5-6% of respondents disagree with the statements. The variables for the factor competencies are; accuracy of stock market information (48.9%), quality of research (60.1%), timeliness of

transactions (81.9%), wide range of services (73.0%), easy to use web pages (76.0%) and a low amount of steps to execute orders (57.2%). For all statements, only between 0.8-6% of respondents disagree and all average ratings are significantly higher than neurtral. The final factor is price perceptions, measured by the statement that overall commission rates are high. 50.4% of respondents agree with this statement while only 4.5% disagrees, a large portion of people therefore thinks that commission rates aren't high nor low. The average rating of commission is evaluated significantly greater than neutral at the 1% level nonetheless.

Table 3 shows the Pearson correlations among the variables included in this study. As expected there are several statistically significant correlations between the dependent variable customer experience and the independent variables. In addition, among the variables that reflect the same factor the correlations are high and statistically significant. These correlations are made bold. This indicates that those variables measure the same construct, as we expect. However, it is evident that there is a lot of correlation between other variables aswel, we will discuss those significant at the 5% and with correlations higher than 0.300.

As can be seen from table 3, there are correlations between fairness and a wide range of services (0.326), providing of best prices and quality (0.376) and providing of best prices with ease of use (0.307). These correlations are expected to some extent as Balasubramanian et al. (2003) find evidence that perceived operational competence positively influences perceived trustworthiness.

	Satisfaction	Truthfulness	Interest	Fair	Best price	Accurate	Quality	Timely	Wide range	Easy-to- use	Steps
Satisfaction											
Truthfulness	0.342**										
Interest	0.190*	0.387*									
Fair	0.273**	0.482**	0.409**								
Best price	0.309**	0.468**	0.178*	0.411**							
Accurate	0.16	0.244**	-0.06	0.14	0.263**						
Quality	0.255**	0.195*	0.05	0.194*	0.376**	0.399**					
Timely	0.213*	0.16	0.199*	0.294**	0.242*	0.177*	0.261**				
Wide range	0.186*	0.182*	0.07	0.326**	0.293**	0.270**	0.307**	0.237**			
Easy to use	0.16	0.180*	0.04	0.274**	0.307**	0.270**	0.236**	0.172**	0.341**		
Steps	0.12	0.171*	0.03	0.180*	0.171*	0.210*	0.346**	0.249**	0.205**	0.321**	
Commission	-0.234**	-0.06	0.05	-0.15	-0.197*	-0.177*	-0.187*	-0.09	-0.214*	-0.13	-0.05

## Table 3 Pearson correlation coefficients (N=133)

#### 4.2 Factor analysis

In section 3.3.2 we mentioned that, to investigate complex concepts, it is important to test wether our variables fit the underlying factors. Initially, the factorability of the measurement items was examined, by using several well recognised criteria for the factoryability of a correlation. Firstly, it was observed that many items correlated at least .3 with at least one other item suggesting reasonable factorability (see table 3). Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was .794, above the commonly recommended value of .6 and Bartlett's test of spherecity was significant (p < .01). Both tests suggested that factor analysis is appropriate in this case. We used principal component analysis to convert our correlated items into four uncorrelated variables. Table 4 shows that the four factors explain our item measures well. The extracted factors together account for 58.5% of the total variability in all of the variables together.

	Initial e	eigenvalues		Rotatio	n sums of square	d loadings
component	total	% of variance	Cumulative %	total	% of variance	Cumulative %
1	3.525	29.373	29.373	2.205	18.372	18.372
2	1.520	12.663	42.036	1.798	14.987	33.359
3	1.076	8.971	51.006	1.765	14.705	48.064
4	0.899	7.488	58.495	1.252	10.431	58.495
5	0.890	7.417	65.912			
6	0.761	6.344	72.256			
7	0.668	5.565	77.821			
8	0.640	5.335	83.157			
9	0.635	5.293	88.449			
10	0.567	4.722	93.171			
11	0.451	3.759	96.931			
12	0.368	3.069	100.00			

Table 4 Total variance explained by the factors

We performed another factor analysis to test if our measures for perceived trustworthiness and perceived competencies relate to two different factors. In the correlation table we saw that these were correlated and an explanation was the positive influence of competencies on trust as suggested by Balasubramanian et al. (2003).

Table 5 shows that trust items load high on component 2 and competency items load high on component 1 making a clear difference between the two sets of items. We chose to not show all factors loading below 0.300 so a clear distinction can be seen from the table on which component a variable loads high.

Component		1	2	
Trust	Truthfulness		0.737	
	Interest		0.782	
	Fair		0.765	
	Best price	0.464	0.522	
Competencies	Accurate	0.674		
-	Quality	0.704		
	timely	0.386	0.333	
	Wide range	0.578		
	Easy to use	0.607		
	Low steps	0.599		

Table 5 Varimax rotated component loadings for 10 survey items.

Table 5 only shows factor loadings over 0.300 for interpretability.

#### 4.4 Regression results and hypothesis testing

This section discusses the results of the regression analysis performed to test the hypotheses stated in chapter two. We used seven different models to test the influences of the three determinants. We coded the control variables in table 6 in such a way that these represent having a high score on this variable. Before discussing the results we shortly mention the results of the assumptions of linear regression that we checked as mentioned in section 3.3.3. Firstly, to quantify the severity of multicolliniearity we calculated the variance inflation factor (VIF). Our scores are; perceived trustworthiness 1.201, perceived competencies 1.246 and price perceptions 1.054. These scores are low and we can conclude that there is no multicollinearity between our predictor variables. Secondly, there must be a linear relationship between the outcome variable and the independent variables, in the appendix we show a plot of the standardized residuals versus the predicted Y values that show a our data points indeed follow a linear relationship. Thirdy, we have checked if heteroscedasticity was present, the plots belonging to this test can be found in the appendix. From these plots, we conclude that the observations are rather homoscedastic as the observations are not fanning out towards the top right corner of the plot. Lastly, we checked the normality of the residuals, of which the plots can be found in the appendix. If the error distribution is significantly non-normal, confidence intervals can be too wide or too narrow. After all assumptions of linear regression have been checked and confirmed we can report our regression results.

The first column shows the direction of our hypotheses and if the results support these. Table 6 shows that all three predictor variables seperately (models 1-3) significantly influence customer experience at the 1% level. However the difference in adjusted  $R^2$  (0.137, 0.076 and 0.048 respectively) is large when looking at the other models. When including all three predictor

variables in model 4, perceived trustworthiness remains significant at the 1% but perceived competencies (0.038) and price perceptions(-0.188\*\*), have a lower coefficient and perceived competencies is no longer significant. Therefore we mix our predictor variables in pairs of two to analyze the changes in models 5 and 6. Model 5 shows that perceived comptencies (0.076\*\*\*) remains significant when combined with price perceptions (-0.199\*\*). Model 6 shows that perceived trustworthiness (0.122\*\*\*) consistently is significant and perceived competencies (0.049\*) barely remains significant. In model 7 we add the control variables to exclude their effects as they are not our main interest. Model 7 shows that perceived trustworthiness  $(0.104^{***})$  is significant as well as price perceptions  $(-0.160^{*})$ . Model 7 also shows that investing experience of over 10 years  $(-0.264^*)$  negatively influences customer experience significantly. The adjusted  $R^2$  however is lower than that of model 4 that only predictor variables. We compared these results to similar includes studies (e.g. Balasubramanian et al. 2003) that use different investors. They confirm the positive influence of trustworthiness and competencies and the negative influence of price perceptions. However, they report higher coefficients for trustworthiness (0.4-0.5) and competencies (0.5-0.8) while slighly lower for price perceptions (0.11-0.13) reamaining significant at the 1% level at all times. The  $R^2$  that they report is larger (0.73-0.76) and their sample is 428 respondents in total. These factors certainly play a role in the hight and confidence of their results, the sign of the relationships are nonetheless similar to ours. Table 6 shows that investing experience is, and some other socio-demographic control variables are almost, influencing customer experience. Therefore we decided to run regressions on different subsamples based on socio-demographic variables gender, age, experience, education, portfolio value and risk profile. These results will be reported in table 7.

	Hypothesis	1	2	3	4	5	6	7
Perceived Trustworthiness	+ (Yes)	0.148 (0.032) ***			0.120 (0.759) ***		0.122 (0.034) ***	0.104 (0.036) ***
Perceived competencies	+ (Partial)		0.088 (0.026) ***		0.038 (0.027)	0.076 (0.026) ***	0.049 (0.027) *	0.044 (0.028)
Price perceptions	- (Yes)			-0.261 (0.095) ***	-0.188 (0.091) **	-0.199 (0.094) **		-0.160 (0.094) *
Gender								0.226 (0.204)
Age								0.151 (0.127)
Experience								-0.264 (0.153) *
Educational level								-0.211 (0.144)
Portfolio value								-0.036 (0.133)
Risk Profile								0.000 (0.127)
Adjusted R <sup>2</sup>		0.137	0.076	0.048	0.173	0.100	0.152	0.172

#### Table 6 Regression results explaining customer experience

Table 6 report the unstandardized coëfficient and the standard error underneath between brackets. The stars \*, \*\* and \*\*\* represent significance at the 10%, 5% and 1% level respectively. The first column shows the sign of the relation and if the hypothesis is supported.

	Retired	>10y experience	University education	Growth clients	Offensive risk profile	All respondents
Perceived Trustworthiness	0.031 (0.052)	0.112 (0.038) **	0.113 (0.041) ***	0.042 (0.069)	0.092 (0.058)	0.120 (0.759) ***
Perceived competencies	0.100 (0.038)**	0.055 (0.032)	0.024 (0.034)	0.090 (0.056)	0.013 (0.044)	0.038 (0.027)
Price perceptions	-0.135 (0.130)	-0.181 (0.111)	0209 (0.109) *	-0.236 (0.155)	-0.253 (0.136) *	-0.188 (0.091) **
Mean score	4.10	3.93	3.95	4.17	4.02	3.98
Std. Deviation	0.730	0.804	0.796	0.781	0.820	0.759
Adjusted R <sup>2</sup>	0.151	0.183	0.121	0.130	0.099	0.173
Ν	60	104	100	48	62	133

#### Table 7 Regression results for different subsamples

Table 7 reports the unstandardized coëfficient and the standard error underneath between brackets for different sub-samples.

In table 7 we show the regression results, average rating, standard deviation and adjusted  $R^2$  of different subsamples. These subsamples are chosen because of suggestions by scholars (e.g., Cocca 2016 and Balasubramanian et al. 2003) and managers from the private bank. We expect some subsamples to perceive some variables slightly different. We chose the age group of retired people as other scholars (Cocca, 2016) have found evidence that supports that the older a person is, the lower general digital affinity. Cocca (2016) therefore suggests that a higher age could lead to a lower customer experience of digitised financial advisory services. Our results do not support this suggestion as retired HNWI rate customer experience on average 4.10. In the regression result another difference is evident; for this subsample perceived competencies influence customer experience significantly at the 5% level while it is not significant when combined with the other predictors as shown in table 6. In the subsamples of experienced- and highly educated HNWIs, the only difference from the full sample is that price is no longer influencing customer experience significantly. This is not suprising as the sample consist for tho-third of highly educated HNWIs with a lot of investing experience. The growth clients subsample was used because of the take on of clients below €1,000,000 in net assets. It is interesting to test of this new client group that originates from 'Duurzame Klantengroei' have the same determinants of a high customer experience. Table 6 shows that there is no evidence to support such suggestions, possibly the relatively small sample size of 48 influences this. On the other hand, the average rating given by these HNWI is slightly higher (4.17) In the 5<sup>th</sup> column we show the regression results for clients with more offensive risk profiles. Here, only price perceptions influences customer experience and is significant at the 10% level.

## **5.** Conclusions

In this discussion, first our research question and hypotheses will be presented, as well as how we researched this. After that, the scientific as well as the practical implications will be discussed. Furthermore, the limitations and directions for future research will be discussed.

The goal of this research was to find out what the determinants of customer experience are for HNWIs in a digitised financial advisory environment.

From the relevant literature (Van Raaij & Van Thiel, 2017; Balasubramanian et al. 2003; Cocca, 2016; Urban et al. 2000) on customer experience in financial advisory we deducted the following hypotheses about factors that influence customer experience of HNWI's.

Therefore, in our research, we included these three factors along with some control variables in a survey to study their effect on Private banking clients. With the cooperation of a private bank

Hypothesis	Outcome
Hypothesis 1: Perceived trustworthiness is expected to positively influence customer	supported
experience.	
Hypothesis 2: Perceived competencies of the provider of the financial advice and it's	Not supported
back-office systems are expected to positively influence customer experience.	(partially for
	'retired'
	subsample)
Hypothesis 3: Perceptions of high prices are expected to negatively influence	supported
customer experience	

we managed to receive 133 usable observations of private banking advisory clients.

As mentioned above trust is generally expected to positively influence customer experience by private banking clients. This holds for all models in our analysis. We report a coefficient of approximately 0.11 statistically significant at the 1% level.

Competencies, measured on six items, is scored as positively influencing customer experience by private banking clients but falls outside the 10% confidence level most of the times. Only for the subsample of retired HNWIs, perceived competencies are a statistically significant predictor of customer experience.

Price was not always found statistically significant in past research, although dominantly expected to negatively influence customer experience. Our results support that price affects customer experience negatively. This outcome is statistically significant in all models with a coefficient of -0.20 on average. In the analysed subsamples price was not always found significant, this might be due to the smaller sample size of these subsamples.

This research is one of few that reports perceptions of private banking clients, these insights are necessary as digitization is taking over the banking segment as mentioned in the first chapter.

In our results, we show that private banking clients are older, wealthier, higher educated and have more experience in investing than regular banking clients. These characteristics led to the interest for studying their attitudes towards digitised financial advisory, as is being implemented currently.

In scholarly articles, many different factors influencing customer experience are present, we described how these different factors have an impact on customer experience in this digitised setting. We confirmed two of our three hypotheses relating to the determinants of customer experience very clearly. Next to the abovementioned this research does have some limitations. First, due to data constraints it was not possible to get a larger sample and to include various geographical areas which would make our results more generalizable. This due to the nature of HNWIs who mostly want to remain private and could only be contacted through their personal investment advisor.

Secondly, since visualization of contact at the private bank was implemented during my research attitudes towards this can only be researched in the future. Even in this highest segment of banking clients a face-to-face meeting is being replaced by a video-chat. The client advisors who know these clients mainly don't want to replace face-to-face meetings by this video-chat options and think that clients will appreciate it less. These discussions could be the base for new research into this area which is evolving within private banking.

Future research could explore the opinions about the differences in digitisation with more factors. By extending the amount of factors and including the removal of a personal advisor as an option as is suggested by research which claims the financial advisors as a job robots are already taking over. In that case the subsamples of robot-advisors and hybrid-advisory model could be analysed seperately, for practitionars to gain knowledge into what customers prefer. In addition a larger sample size spreading different geographical area's and private banks would increase the generalizability of such a study tremendously. Another recommendation is the expanding of the measures for customer experience or satisfaction. Including more variables to explain this complex construct could give a broader view on the concept, especially in the digital environment of private banking as it is not frequently studied.

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## 8. Appendixes

#### Homoscedasticity



## Normality of residuals



## Linear relationship



Normal P-P Plot of Regression Standardized Residual

## Request for participation UNIVERSITEIT TWENTE.

Geachte heer/mevrouw,

Hierbij wil ik uw medewerking vragen voor een onderzoek in het kader van het afronden van de Masteropleiding Business Administration (Bedrijfskunde) aan de Universiteit Twente. Momenteel loop ik stage bij ..... om hier dit onderzoek uit te voeren. Dit onderzoek richt zich op de effecten van digitalisering van belegginsadvisering. Voor dit onderzoek zijn meningen nodig van mensen die beleggen.

Het invullen van de vragenlijst is geheel **anoniem** en zal ongeveer 5 minuten van uw tijd kosten (19 meerkeuze vragen). De door u verstrekte informatie zal uitsluitend voor dit onderzoek gebruikt worden. De resultaten van de vragenlijst zullen vertrouwelijk behandeld worden. Het is niet mogelijk om te zien wie welke antwoorden ingevuld heeft. Mocht u interesse hebben in de bevindingen van het onderzoek, dan kunt u aan het eind van de vragenlijst uw e-mailadres achterlaten. Uw e-mailadres wordt uitsluitend eenmalig voor dit doel worden gebruikt en zal niet worden bewaard.

Indien u bereid bent mee te doen aan het onderzoek kunt u via **onderstaande link** de vragenlijst openen en de vragen en stellingen beantwoorden. Neem rustig de tijd om de vragen en stellingen door te lezen en probeer zo eerlijk mogelijk te antwoorden. Er zijn geen goede of foute antwoorden.

Mocht u nog vragen hebben, dan kunt u contact opnemen met mij via <u>m.tespenke@student.utwente.nl</u>

Bij voorbaat dank voor uw medewerking, Met vriendelijke groet,

Maurice te Spenke

## **Risk profilels and performance benchmarks**

Naam risicoprofiel	Zeer defensief	Defensief	Matig defensief	Matig offensief	Offensief	Zeer offensief
Beleggingshorizon	> 2 jaar	> 5 jaar	> 7 jaar	> 10 jaar	> 12 jaar	> 15 jaar
Verwacht rendement op jaarbasis (geometrisch rendement o.b.v. 10-jaars horizon)	0,7%	2,1%	3,0%	4,3%	5,2%	5,9%
Verwacht risico (standaarddeviatie)	4,0%	5,2%	7,6%	11,5%	15,5%	18,5%
Kans op negatief rendement elke jaar	2,3	2,9	2,9	2,8	2,7	2,6
Bandbreedte (minimale en maximale wegingen)						
Aandelen	0 - 10%	0 - 30%	10 - 50%	20 - 70%	30 - 90%	40 - 100%
Obligaties	40 - 100%	30 - 85%	20 - 70%	10 - 55%	0 - 40%	0 - 25%
Alternatieve beleggingen	0 - 10%	0 - 20%	0 - 20%	0 - 30%	0 - 30%	0 - 30%
Liquiditeiten	0 - 60%	0 - 70%	0 - 70%	0 - 70%	0 - 70%	0 - 60%
Benchmark (neutraal) gewicht						
Aandelen	0%	15%	30%	50%	70%	85%
Obligaties	90%	70%	55%	35%	15%	0%
Alternatieve beleggingen	5%	10%	10%	10%	10%	10%
Liquiditeiten	5%	5%	5%	5%	5%	5%

\* Het verwachte rendement op jaarbasis is berekend op basis van de lange termijn visie van de bank (10-jaars horizon) waarbij per risicoprofiel is uitgegaan van de neutrale benchmarkgewichten. Hoe hoger de standaarddeviatie hoe hoger de kans op een positiever dan wel negatiever rendement.

De waarde van uw belegging kan fluctueren. In het verleden behaalde resultaten bieden geen garantie voor de toekomst.

### Questionnaire

Digital financial advice- private banking survey

- Q1 Wat is uw geslacht?
- **O** Man (1)
- **O** Vrouw (2)
- Q2 Wat is uw leeftijd?
- **O** 0-50(1)
- **O** 51-65(2)
- **O** 66-80(3)
- **O** ouder dan 80 (4)
- Q3 Gedurende hoe lang belegt u al geld?
- **O** 0-1 jaar (1)
- **O** 1-3 jaar (2)
- **O** 3-6 jaar (3)
- **O** 6-10 jaar (4)
- O langer dan 10 jaar (5)
- Q4 Wat is uw opleidingsniveau?
- O VMBO/ MAVO/ MULO/ LBO / VBO (1)
- O HAVO/ VWO/ HBS/ MBO (2)
- O HBO/HTS/Bachelor (3)
- O WO/MASTER (MBA) (4)
- O Geen opleiding of alleen lager onderwijs (5)
- Q5 Wat is uw totale vermogen in uw beleggingsdepot(s)?
- O 0,5 tot 1 miljoen (1)
- O 1 tot 2 miljoen (2)
- $\bigcirc$  2 tot 4 miljoen (3)
- O 4 tot 8 miljoen (4)
- O meer dan 8 miljoen (5)
- O Wil ik niet zeggen (6)

Q6 Wat is uw gekozen risicoprofiel?

- O defensief (2)
- O matig defensief (3)
- O matig offensief (4)
- O offensief (5)
- O zeer offensief (6)

Q7 Ik ben tevreden over de complete financiële adviesservice?

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q8 Hoe groot is de kans dat u het door u ontvangen financiële advies zou aanbevelen aan naasten?

- O zeer klein (1)
- O klein (2)
- O neutraal (3)
- **O** groot (4)
- O heel groot (5)

Q9 Mijn financieel adviseur stelt mijn beste belang altijd voorop.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q10 Mijn financieel adviseur acteert altijd eerlijk tegenover mij.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)

- O mee eens (4)
- O helemaal mee eens (5)

Q11 Mijn financieel adviseur is eerlijk en open over de kosten die gepaard gaan met beleggen.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q12 Mijn financieel adviseur voorziet mij altijd van de beste prijzen voor het inleggen van orders.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q13 De private bank heeft altijd de meest actuele en accurate beursinformatie op zijn website staan.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q14 De kwaliteit van beschikbaar aandelen-onderzoek gedaan door de private bank is hoog.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q15 Mijn financieel adviseur voert mijn transacties tijdig uit.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q16 Mijn financieel adviseur biedt een breed scala aan diensten aan.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q17 De website van mijn private bank is gemakkelijk in het gebruik.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)

Q18 De hoeveelheid stappen die ik moet doorlopen om een transactie op te geven is laag.

- O helemaal mee oneens (1)
- O mee oneens (2)
- O neutraal (3)
- O mee eens (4)
- O helemaal mee eens (5)
- Q19 Wat vindt u van het tarief dat u betaald?
- O heel laag (1)
- **O** laag (2)
- O neutraal (3)
- **O** hoog (4)
- **O** heel hoog (5)