A Work Project, presented as part of the requirements for the Award of a Master's degree in Management from the Nova School of Business and Economics.

AN EXAMINATION OF CRITICAL FACTORS INFLUENCING THE FUTURE USAGE INTENTION OF INNOVATIVE DIGITAL FINANCIAL SOLUTIONS FOR INVESTMENT ACTIVITIES:

CONSUMERS' ATTITUDE TOWARDS NEOBANKS IN GERMANY

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Abstract

The financial services industry is facing significant changes in Germany, especially in the area of investment activities with the emergence of innovation solutions for retail investors. This study aims to investigate the critical factors influencing the future usage intention of digital financial solutions for investment activities, namely neobanks, neobrokers and robo-advisors. The proposed research model is based on the extended valence framework and extended unified theory of acceptance and use of technology (UTAUT2), where a moderated mediation is expected. Primary data from a survey with N = 100 has been analyzed to answer the research questions. It was found that trust and perceived benefit are strong determinants of the behavioral intention to use online trading services provided by neobanks. Further, perceived risk is determined by financial risk and operational risk, while perceived benefit is explained by performance expectancy and price value. It is suggested that neobanks increase measures for trust-building and offer features like online trading that add value for consumers.

Keywords: Technology Adoption, Consumer Behavior, Digital Business, Fintech, Digital Transformation, Retail Investor, Digital Financial Service, Neobank, Trust, Extended Valence Framework, UTAUT2, Germany

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1. Introduction

> *"We're witnessing the creative destruction of financial services, rearranging itself around the consumer. Who does this in the most relevant, exciting way using data and digital, wins!"* - Arvind Sankaran (2016)

The statement from Arvind Sankaran, an expert in retail banking and wealth management (Crayon Data 2016), illustrates the ongoing transformation in the financial sector precisely. The rather conservative German financial services sector is likewise facing major changes. Startups and other competitors are entering the market with the use of innovative technologies, such as artificial intelligence and machine learning, challenging incumbent players. These so-called fintech (financial technology) companies have alternative offers and business models which are leaner, more agile, and innovative, and could thus make traditional banking processes obsolete in many areas. It is estimated that the innovative and disruptive business models could put around one third of German banking revenues at risk.

The term fintech is composed of the two words 'financial' and 'technology'. Fintechs use technology to provide financial products (Arner, Barberis, and Buckley 2015) and are to be distinguished from techfin companies, i.e. technology companies that have access to data and use it to enter the financial services sector (Arslanian and Fischer 2019). According to Germany Trade and Invest (2020), in 2020 around 950 companies were active in the digital financial sector in Germany and approximately 757 million euros in venture capital funding was invested in fintech, insurtech (insurance technology) and proptech (property technology). The fintech market in Germany is becoming increasingly attractive, also for international companies, and has evolved into the fourth largest market in the world (Germany Trade and Invest 2020). With a market volume of 52.3 billion euros at the end of 2019, the German fintech market has developed from a niche phenomenon into a volume market with most businesses focusing on financing and asset management services. The average annual growth rate over the last five

years was almost 120%, indicating continued high potential for companies in the financial services sector (Dorfleitner, Hornuf, and Wannenmacher 2020). However, the German fintech market has been developing rather slowly in the past, partly due to strict regulations. For instance, banking licenses are subject to stringent regulation by the German federal financial supervisory authority, Bafin. Moreover, Germans tend to favor cash payments over card or mobile payments and are generally rather reluctant to try new technologies (Centurion Plus 2021). Nevertheless, the average German fintech adoption rate with 64% in 2019 is equal to the global average. Since 2015, where the global average was only 15%, consumers' willingness to try fintech services increased strongly (van der Kroft 2021). This was even further reinforced in 2020 and 2021 by the global pandemic.

In comparison to traditional financial firms that often do not offer products and services that suit their customers' needs in the retail segment, the new wave of fintechs, which entered the market in response to new consumer demands after the financial crisis in 2008, tackles this segment and offers more personalized products and services (Tanda and Schena 2019). They successfully apply new digital technologies to provide customer-centric products and services that are easy to use and convenient (Centurion Plus 2021). Especially new platforms for online trading and digital financial advice are increasingly appealing to consumer segments that traditional brokers have often failed to address, such as young people, women, and minorities (Brown 2020). Large players in the financial industry respond by trying to innovate to keep up with fintechs, but this is difficult as they are less agile and open to risk-taking (Myers 2016). However, there are around 500 partnerships between fintechs and incumbents ranging from banks, insurance companies, payment service providers and asset managers to IT (information technology) and media firms (Centurion Plus 2021).

Generally, fintech activities can be classified into financial intermediation and functional activities for financial intermediation. Financial intermediation can be subdivided into raising

financial resources, investment activities and services, payment services and insurance services. The focus of this study is on investment activities and services which refers to trading, financial management and financial advice (Schena et al. 2020). Providers which cover these services among others are neobanks, neobrokers and robo-advisors. Whereas neobrokers mostly exclusively offer online trading (Statista 2021b), some neobanks whose core business is digital banking already offer online trading or announced this feature for the future (Browne 2019). In addition, robo-advisors offer digital financial investment advice and automated asset management (Frankenfield 2021).

A look at household finances in Germany confirms a change in the savings and investment behavior of Germans. The financial assets of private households in Germany reached a record level at the end of 2020. German citizens' savings accumulate to just under 7 trillion euros and thus financial assets have increased by 6.7% compared to the previous year (Deutsche Bundesbank 2021). This drastic increase is largely related to the Covid-19 pandemic. Private households did not spend their disposable income to the usual extent in 2020, according to the Statistische Bundesamt (2021). On the one side, individuals increased their saving out of concern for the future. On the other side, during lockdown there were fewer opportunities to spend money and consumers adapted their behavior to government measures to protect themselves from infection. As a result, household consumption expenditure fell by 5.4% and the saving rate increased by 5.4% last year compared to 2019 (tagesschau.de 2021).The household savings rate in Germany peaked at 16.2% in 2020 with the total associated savings of around 333.1 billion euros (Statistisches Bundesamt 2021).

The Covid-19 pandemic is a central driver of the increased saving behavior of Germans. They are saving more than ever, although inefficiently (Union Investment Gruppe 2021). Stock markets are booming compared to previous years, but German savers still prefer cash and bank deposits. The combination of low interest rates and an, albeit temporary, pick-up in inflation

ensures that the loss of purchasing power of German savers is likely to reach a record level this year (Union Investment Gruppe 2021).

In 2020, more shares were newly invested in one year than ever before with a total amount of around 49 billion euros. Investments in funds, such as exchange traded funds (ETFs) or real estate funds, have also picked up significantly. This massive increase can be explained by the 93% decline in interest income from savings deposits in Germany over the past 20 years. Despite persistently low interest rates, savers continue to rely primarily on cash and bank deposits. At the end of 2020, according to the Bundesbank, 805 billion euros were invested in shares and other equity securities and 735 billion in investment funds. In comparison, cash and bank deposits reached a volume of 2,809 billion euros (tagesschau.de 2021). 40% of total financial assets, accounting for 2.8 trillion euros, are hence still held in low interest-bearing products (Union Investment Gruppe 2021).

In recent years, zero interest rates have made saving decisions increasingly difficult for many Germans. Even though a new trend in saving behavior is evolving among an increasing number of investors, broad sections of the population need support in saving for returns (Union Investment Gruppe 2021). In order to achieve long-term returns, it makes sense to shift parts of the savings from deposit accounts to capital markets. For private clients, this is not easily possible for several reasons. One reason is limited knowledge of the financial markets. Moreover, many individuals have not been active in the stock markets before. Other reasons are lack of time or money (Deutsche Bank Research 2020). In addition, many German savers argue that bank deposits and cash can be accessed more quickly and therefore prefer these options (tagesschau.de 2021).

Innovative digital financial solutions contribute to the democratization of financial services by making them accessible to the general population. Entry barriers are lowered, on the one hand by the convenience of fintech apps and on the other hand by reduced minimum investment

amounts, lower trading fees, and commission-free transactions (Tan 2021). The above-described transformation has led to the emergence of a market for digital financial services in Germany, where competition is fierce. To establish themselves in the market, it is important for players to know what motivates consumers to use the services in order to attract new customers and retain them. This research aims at investigating critical factors for the future intention to use digital financial solutions for investment activities (DFSIA). In particular, consumers' attitude towards neobanks, neobrokers and robo-advisors is examined. The investigation ultimately leads to practical implications and possible recommendations for managers of the considered types of fintech. For this purpose, a research model is built based on well-known models from literature on consumer behavior and technology acceptance. The developed research model is used to answer the following research questions (RQ).

RQ1 What roles do trust, perceived risk, and perceived benefit play in influencing the future intention to use DFSIA?

RQ2 Are perceived risk and perceived benefit mediating the relationship between trust and the future intention to use DFSIA?

RQ3 What are the determining factors for perceived risk and perceived benefit?

RQ4 Does experience have a moderating effect on the relationship between perceived risk or perceived benefit and the future intention to use DFSIA?

The study is structured as follows. In section two an overview of literature that deals with consumers' future usage intention of different technologies and services in the financial sector is given. Based on the consumer behavior and technology acceptance models that are used in the presented literature, a research model is developed to examine the behavioral intention to use DFSIA. Consequently, the underlying variables as well as hypotheses are presented. The data for the investigation is collected through a consumer survey for each of the provider types: neobank, neobroker and robo-advisor. In section three, the methodology of data collection and

data analysis is described. This is followed by the individual analysis and discussion of the results of each data sample in terms of theoretical and practical relevance. The provider-specific parts of the work conclude with practical implications and recommendations. Furthermore, in section four the limitations of the work are pointed out and suggestions for future research are given. Finally, the paper concludes with a summary of the findings and brief comparison of the provider-specific investigation results.

2. Theoretical Foundation and Literature Review

This section is divided into two parts. Firstly, a review of the literature examining the acceptance of digital financial services is presented followed by the development of our research model. Secondly, considering the literature, the hypotheses to answer our research questions are derived.

2.1. Literature Review and Resulting Set of Variables

To examine critical factors influencing the future usage intention it is necessary to build a theoretical model based on literature on both decision-making and technology acceptance. Such a model derived from the combination of both strands of literature guarantees a sufficient set of variables and a high explanatory power (Gerlach and Lutz 2021). Gerlach and Lutz (2021) study factors which influence consumers' future usage intention of digital financial advice solutions. The authors present a theoretical framework, deriving its variables from the net valence framework from the decision-making literature, and the extended unified theory of acceptance and use of technology (UTAUT2) from the technology acceptance literature. Such research approaches, which combine the two strands in literature, decision-making and technology acceptance, are limited. Most studies that explore the usage intention of digital financial solutions built their work on either the decision-making literature or the technology acceptance literature.

In the following, the current state of research on modelling individuals' future usage intention of digital financial solutions is outlined. A common framework used to examine the intention of using digital financial solutions is the unified theory of acceptance and usage of technology (UTAUT) (Venkatesh et al. 2003). Venkatesh, Thong, and Xu (2012) in a further study improve this model with additional variables proposing UTAUT2. An overview of the model and its variables is given in Appendix A1. Further models frequently used are the technology acceptance model (TAM) and its extension (TAM2), which is presented in Appendix A2, as well as the net valence and extended valence framework displayed in Figure 1. Some relevant papers in literature make small adoptions to these frameworks or modify the models by adding variables according to their research goal. Other studies use combinations of these models (Gerlach and Lutz 2021).

In the following, studies which base their research on either UTAUT and its extension, TAM and its extension or the net valence framework are outlined. Firstly, several studies utilize UTAUT and UTAUT2 to study consumers' usage intention for digital financial solutions. For instance, Zhou, Lu, and Wang (2010) as well as Baptista and Oliveira (2015) both investigate consumers' mobile banking acceptance and adoption intention. Zhou, Lu, and Wang propose a model by combining UTAUT with the task technology fit (TTF) model and Baptista and Oliveira integrate cultural moderators into UTAUT2. Additionally, studies from Morosan and DeFranco (2016) and Havidz et al. (2018) examine the usage intention of mobile payments and likewise utilize UTAUT2 for their investigation framework. Furthermore, Kaur and Arora (2021) use UTAUT2 in their work to study the role of perceived risk, with trust as the moderator, on consumers' behavioral intention to use online banking.

Secondly, next to UTAUT and UTAUT2, TAM by Davis (1989) is also frequently used in literature. For example Meyliana, Fernando, and Surjandy (2019) as well as Hu et al. (2019) use TAM as the basis of their framework to investigate consumers' acceptance of financial

technology in combination with the two factors trust and perceived risk. Kim et al. (2016) explore the adoption of payment-type fintech services and make use of TAM for their investigation. A further study examines the influence of the TAM factors together with perceived trust, security, and privacy on e-investors (Roca, García, and de la Vega 2009). In addition, the exploratory study from Abramova and Böhme (2016) investigates key determinants for the acceptance and behavioral usage intention of bitcoins. Their model is based on TAM and modified by the integration of the multidimensional constructs perceived benefit and perceived risk. Furthermore, Featherman and Pavlou (2003) make use of TAM for predicting the usage of e-services and, like in the before mentioned study, integrate perceived risk in their model, but disregard the factor of perceived benefit. Moreover, several studies deal with the adoption of online or mobile banking (Cheng, Lam, and Yeung 2006; Pikkarainen et al. 2004). The studies from Yiu, Grant, and Edgar (2007) and Maditinos, Chatzoudes, and Sarigiannidis (2013) use TAM to explore consumers' usage intention of online banking. The former study adds the two factors of personal innovativeness and perceived risk, and the latter adds the variables of perceived risk and quality of Internet connection to the model. Lee (2009a) in his study integrates the factors perceived benefit and perceived risk in TAM and the theory of planned behavior (TPB).

Thirdly, the net valence framework is commonly used in the decision-making literature to explore individuals' behavioral intention (Peter and Tarpey 1975). In the context of digital financial services, Liu, Yang, and Li (2012) and Ryu (2018a; 2018b) for instance suggest a framework based on the perceived risk and perceived benefit analysis for investigating consumers' intention to adopt mobile payment technologies.

With regards to previous research approaches and to the best of our knowledge, no study has yet been conducted to investigate and compare the future usage intention of digital financial solutions for investment activities provided by neobanks, neobrokers and robo-advisors in

Germany, utilizing a model from the combination of the two relevant strands of literature. Our study presents a model that combines the extended valence framework (D. J. Kim, Ferrin, and Rao 2009) from the decision-making literature with UTAUT2 (Venkatesh, Thong, and Xu 2012) from the technology acceptance literature to fill the research gap and address this study's research questions and hypotheses. UTAUT2 is considered to be the most recent and complete theory on the acceptance of technologies to date (Gerlach and Lutz 2021; Venkatesh, Thong, and Xu 2012). Consequently, our set of variables is derived from both strands of literature. Peter and Tarpey in their net valence framework have captured the importance of perceived risk and perceived benefit in the consumer decision-making process. Consumers seek to minimize the negative utility, i.e. perceived risk associated with a product or service and simultaneously maximize the positive utility, i.e. perceived benefit associated with a product or service to overall maximize the net utility (net valence) of their decision (Peter and Tarpey 1975; D. J. Kim, Ferrin, and Rao 2009. Kim, Ferrin, and Rao (2009) adapted this model by proposing an extended valence framework which integrates the variable trust in the net valence framework. The authors identify trust as a fundamental factor in the decision-making process. Trust is assumed to directly affect the usage intention of a product or service and indirectly affect the usage intention through the two mediators: risk and benefit. Figure 1 illustrates these relations.

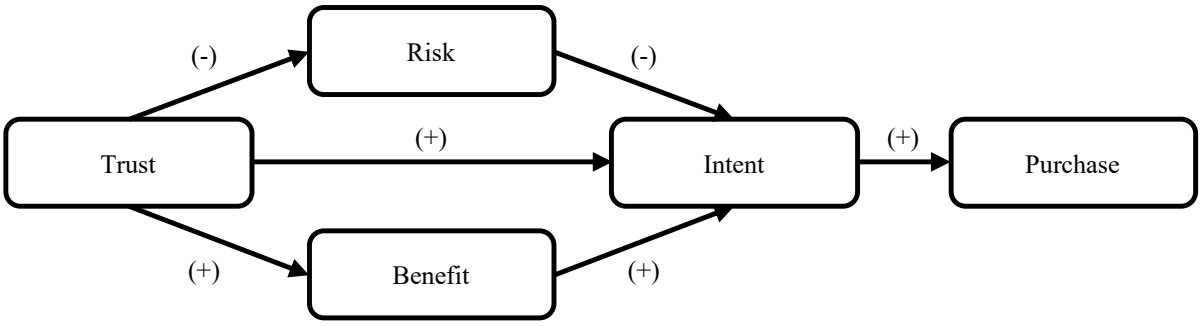

Figure 1: Extended Valence Framework (Kim, Ferrin, and Rao 2009)

In the following, we outline the composition of our research model. Figure 2 visualizes our research model and gives an overview of possible correlations between the variables studied.

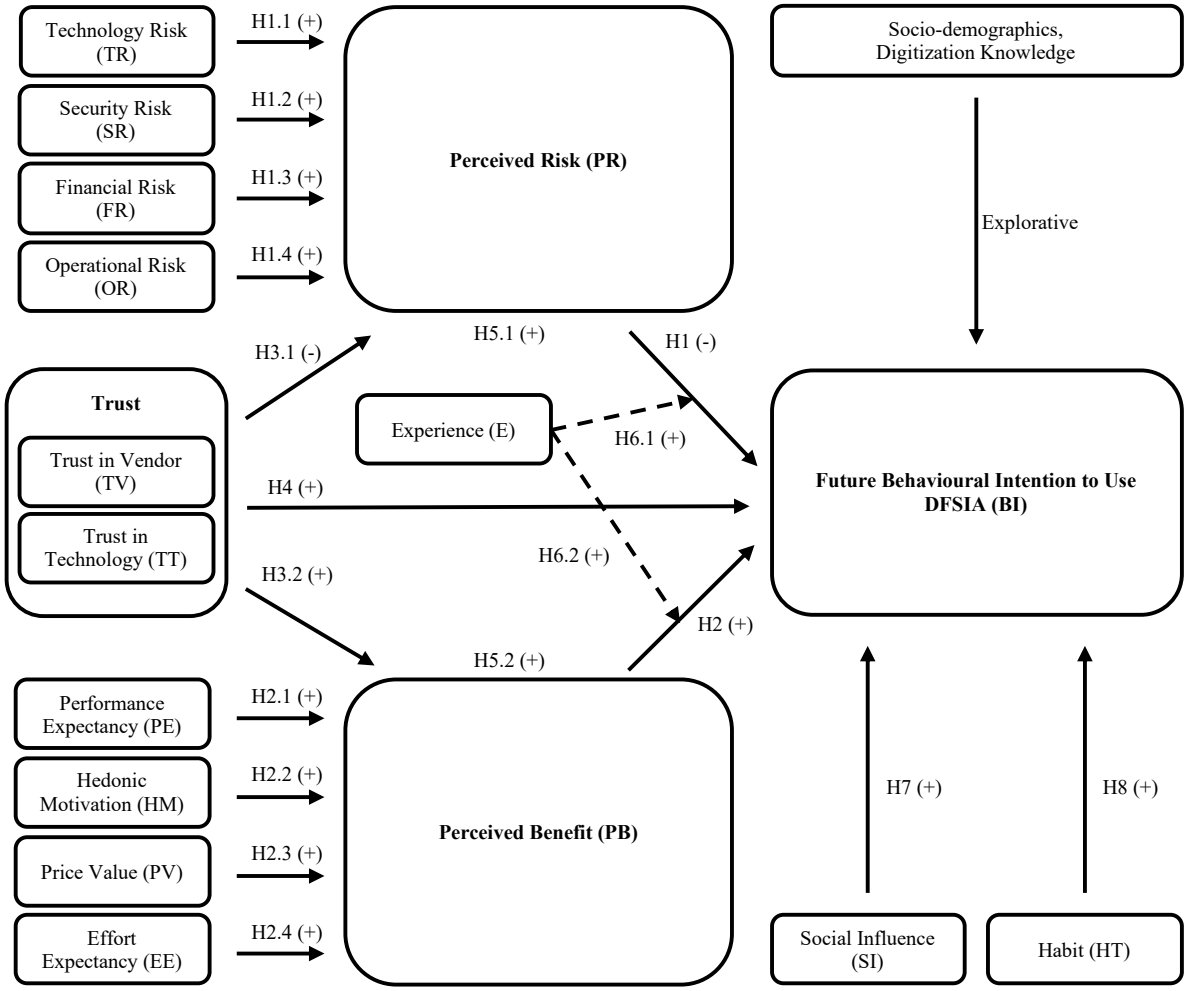

Figure 2: Research Model

Based on the extended valence framework from the decision-making literature and accordingly on factors of perceived benefit, perceived risk, and trust, we have integrated perceived benefit and perceived risk, technology risk, security risk, financial risk, operational risk and trust as independent variables into our model (Peter and Tarpey 1975; Lee 2009a; Ryu 2018b; Gerlach and Lutz 2021). From the UTAUT2 in regard to acceptance or adoption of technology related literature we resort to the determining variables performance expectancy, effort expectancy, price value, hedonic motivation, social influence, habit, experience and socio-demographics, i.e. age and gender (Venkatesh, Thong, and Xu 2012). Consistent with Gerlach and Lutz (2021), we additionally incorporate the explorative variable digitization knowledge into our model. As this study examines critical factors influencing the future usage intention of innovative digital

financial solutions for investment activities, the variable future behavioral intention to use DFSIA represents the dependent variable of our empirical approach. Finally, it must be mentioned at this point, that we have not included the UTAUT2 variable facilitating conditions in our model. This variable incorporates the availability of Internet connection and electronic devices as well as the sufficient technological knowledge to use DFSIA (Venkatesh, Thong, and Xu 2012). We assume that this is not an issue for the participants of our study. The predicted correlations between our variables are based on the underlying models and are additionally supported with past research findings, which is explained in detail below.

2.2. Variables and Hypotheses

In the following we define the above-selected variables and develop hypotheses to address our research questions.

Perceived risk and perceived benefit are two of the main factors in the extended valence framework used to determine behavioral intention (see Figure 1). Perceived risk, on the one hand, reduces consumers' adoption of technology (Ryu 2018b). It represents the consumer's perception of negative outcomes and uncertainties while using for example fintech services (D. J. Kim, Ferrin, and Rao 2008). Perceived benefit, on the other hand, is a factor that provides consumers with incentives to adopt a technology. It refers to positive behavioral beliefs which influence the attitude and the intent to use (Ryu 2018a). Peter and Tarpey (1975) explore consumers' strategies for decision-making in the context of brand preferences. Their results show that perceived risk has a stronger influence on brand preferences than perceived benefit, although both factors exhibit significant influences. Benlian and Hess (2011) have similar findings. The examination of opportunities and risks of software-as-a-service adoption by IT executives reveals that perceived risk and benefit explain 83% of variance in the intent to raise the degree of software-as-a-service adoption. Moreover, Gerlach and Lutz (2021) find a positive influence of perceived benefit on the behavioral intention to use digital financial advice

solutions. In contrast, perceived risk affects usage intention negatively. A study examining the adoption of online trading in Taiwan exposed that perceived risk is the main factor negatively influencing the intention to use online trading. Thus, perceived risk is the primary inhibitor of adopting online trading. By contrast, perceived benefit has the most significant positive effect on the intention to adopt online trading (Lee 2009b). Similar findings on the importance of perceived risk were found in the context of Internet banking technologies (Kesharwani and Bisht 2012) where perceived risk is often linked to economic and functional reasons, for example misusage of passwords, typing mistakes because of inconvenient devices or the absence of an official receipt (Kuisma, Laukkanen, and Hiltunen 2007). Based on the above-presented studies which show the negative influence of perceived risk and the positive influence of perceived benefit on future usage intention, we suggest the following hypotheses.

H1 Perceived risk negatively affects future intention to use DFSIA.

H2 Perceived benefit positively affects future intention to use DFSIA.

In the following, four risk related variables that are expected to positively influence perceived risk are introduced. Technology risk refers to consumers' perception that the use of technology can trigger risks. Thus, it is about processing information about a possibly damaging effect of the use of technology and consequently developing an opinion about severity, probability, and acceptability of the technology in question (Renn and Benighaus 2013). The focus of our variable technology risk is not on the type of risk (security, financial, operational), but on the technology itself, which the consumer sees as a risk factor. For the other types of risk, the focus is less on the technology that may be involved and results into risk, but rather on the outcome for the consumer, such as a financial loss. Although in the literature used for the development of the other hypotheses, the construct technology risk has not been used, we consider it to be an important factor for the usage intention of providers using innovative technologies and thus integrate it into the research model. Many consumers link the term 'technology' with potential

danger, and thus fear hidden risks which is reinforced by extensive media coverage of some technology risks (Renn and Benighaus 2013). As digital technologies are integrated into most aspects of life, consumers increasingly become dependent on these technologies. At the same time, they are exposed to technology risks of which many are not completely understood (Dr Bryn and Perkins 2018). We expect that the risk which consumers might fear, due to the use of technology, positively affects perceived risk. Thus, we propose the following hypothesis.

H1.1 Technology risk positively affects perceived risk.

In our model, besides technology risk, the three risk factors, financial risk, security risk and operational risk, are expected to influence perceived risk of an individual. Financial risk is associated with potential monetary losses and consumers' uncertainty when using online financial services (Forsythe et al. 2006), for example due to errors in the transaction process, account abuse (Lee 2009a), moral hazard, fraud, or high transaction costs (World Economic Forum (WEF) 2015; Ryu 2018b). Security risk involves high potential losses due to fraudulent behavior, like unauthorized access to consumers' accounts and hacker attacks, which raises particular concerns in the context of fintech (Lee 2009a; Littler and Melanthiou 2006). Thus, users are not only afraid of direct monetary loss, but also about violence against their privacy and personal data (Ryu 2018b; Lee 2009a). The last risk factor, operational risk, refers to losses that can arise due to insufficient and unsuccessful internal processes or mistakes made by persons and systems (Bank for International Settlements and on Banking Supervision 2006). Various research approaches study the influence of the factors financial risk, security risk and operational risk jointly. For example, Ryu (2018b) investigates Asian consumers' usage of fintech solutions and observes a positive influence of all three risk factors on perceived risk (Ryu 2018b). A further study analyzes the positive effect of financial risk and privacy risk on perceived risk in the context of mobile payment. Privacy risk is incorporated into our variable security risk. In this particular study, only financial risk was a significant variable determining

perceived risk. This can be explained by the fact that Chinese consumers put more weight on financial concerns than on privacy (Liu, Yang, and Li 2012). The significant influence of financial and operational risk on perceived risk regarding bitcoin usage is confirmed by the study from Abramova et al. (2016). In addition, Gerlach and Lutz (2021) conducted a study in the context of digital financial advice solutions, in which the significant impact of security risk on perceived risk is lower than of financial and operational risk (Gerlach and Lutz 2021). Lee (2009a) reveals that consumers' highest concerns in the online banking context are fraud and identity theft. Thus, security risk represents the most influential factor on usage behavior. Financial risk is identified to be the second highest factor. Because of lacking direct contact to service employees, customers have difficulties in claiming compensation in case of errors with transaction processes. Similar results can be found in the a study of Benlian and Hess (2011) where financial and security risks can be identified as strong variables influencing perceived risk in software as a service (SaaS) adoption.

Considering the above-presented studies investigating usage intention in the financial service context, we assume that security risk, financial risk, and operational risk have a positive effect on consumers' perceived risk.

H1.2 Security risk positively affects perceived risk.

H1.3 Financial risk positively affects perceived risk.

H1.4 Operational risk positively affects perceived risk.

Similar to perceived risk, perceived benefit is expected to be positively influenced by four underlying benefit related factors. Performance expectancy and hedonic motivation are two crucial factors determining perceived benefit associated with a product or service. Performance expectancy is tied to utility. It refers to the level of benefit that a consumer derives from using a technology for carrying out an activity (Venkatesh, Thong, and Xu 2012). Within UTAUT and in the organizational context, Venkatesh, Morris, Davis and Davis (2003) find performance

expectancy to be the most important predictor of the intention to use a given technology. This is also confirmed by Luo, Li, Zhang, and Shim (2010) who study the acceptance of mobile banking services and find performance expectancy to be the most significant determinant of mobile banking acceptance. Compared to the effect of performance expectancy in the organizational context, the effect of hedonic motivation in the consumer context (UTAUT2) is even more important (Venkatesh, Thong, and Xu 2012).

Hedonic motivation is related to the enjoyment and pleasure that consumers perceive when using a technology (Venkatesh, Thong, and Xu 2012). Holbrook and Hirschman (1982) confirm that pleasure plays an important role in the analysis of consumer behavior. Hedonic motivation is a critical factor in determining consumers' use of a product or technology especially for younger consumers (Brown and Venkatesh 2005). Furthermore, the examination of factors determining consumers' acceptance of online banking confirms a positive effect of perceived enjoyment, which is comparable to hedonic motivation, on the intention to use online banking (Maditinos, Chatzoudes, and Sarigiannidis 2013). Another study about the factors influencing the intention to adopt online banking concludes that performance expectancy and hedonic motivation positively affect behavioral intention (Kaur and Arora 2021). Baptista and Oliveira (2015) as well as Gerlach and Lutz (2021) confirm this effect in the context of mobile banking and digital financial advice solutions respectively. The two factors have the most significant effect on usage intention. Taking the above-mentioned studies with similar findings into account, we hypothesize that performance expectancy and hedonic motivation both influence perceived benefit positively.

H2.1 Performance expectancy positively affects perceived benefit.

H2.2 Hedonic motivation positively affects perceived benefit.

Price value is a construct which refers to the trade-off between perceived benefit and economic costs which users face when adopting and using technologies, e.g. to cover the purchase of

devices or services (Venkatesh, Thong, and Xu 2012; Dodds, Monroe, and Grewal 1991). Gerlach and Lutz (2021) find that economic benefit, which incorporates our variable price value, influences perceived benefit positively. Furthermore, price value is an important predictor of behavioral intention, specifically for older women (Venkatesh, Thong, and Xu 2012). Also, Benlian and Hess (2011) reveal that cost advantage is the most significant factor for perceived opportunity, meaning that the benefit of using SaaS is mostly seen in saving costs while growing cash flows. Likewise, Kaur and Arora (2021) confirm a positive relation between price value and behavioral intention. On the contrary, Baptista and Oliveira (2015), who explore the acceptance of mobile banking and use a combination of UTAUT2 and cultural factors, did not find price value to be significant. In this case, the explanation for a non-significant influence of price value on the adoption of mobile banking is that mobile banking services are perceived as free of charge and with less costs than other financial services. Whereas some studies cannot confirm a relationship between price value and perceived benefit, most of the above-presented studies can. Thus, we expect a significant relationship between price value and perceived benefit and propose the following hypothesis.

H2.3 Price value positively affects perceived benefit.

Effort expectancy refers to the extent to which accepting and using a technology represents an effort to consumers (Venkatesh, Thong, and Xu 2012). It is similar to perceived ease of use which is a construct that measures to which extent consumers have to make an effort when learning how to use a fintech service (Hu et al. 2019). Regarding effort expectancy, the results are more differentiated than for the other variables related to perceived benefit. Davis (1989) examines the role of perceived usefulness and ease of use in consumers' acceptance of information technology. The constructs perceived usefulness and perceived ease of use correspond to our variables performance expectancy and effort expectancy, respectively. The author finds that perceived usefulness more strongly influences usage than perceived ease of

use. This is since the task a technology completes is more important for technology adoption than the effort of learning how to work with the technology. Thus, the author concludes that perceived usefulness is a strong determinant of technology acceptance. Also, Venkatesh, Morris, Davis and Davis (2003) indicate that effort expectancy significantly influences usage intention. Further studies that confirm this relationship have been conducted by Ryu (2018a) in the context of the adoption of new financial service like mobile payment, mobile remittance, P2P lending, or crowdfunding, as well as Lee (2009b) in the field of online trading. The influence of perceived ease of use on the attitude towards usage intention shows to be even stronger than the effect of perceived usefulness which might occur as returns from online trading are rather dependent on investment strategies than trading methods (Lee 2009b). However, several studies do not find a significant relationship between effort expectancy and the intention to use a technology and thus contradict the research of Venkatesh, Thong, and Xu (2012). Roca, Garcia, and Vega (2009) examine the role of perceived trust, security, and privacy as well as other TAM constructs in the context of online trading systems. Whereas perceived usefulness is again found to have a positive relationship on behavioral intention, a significant relationship between perceived ease of use and behavioral intention could not be confirmed. Other studies that examine the acceptance of online banking (Maditinos, Chatzoudes, and Sarigiannidis 2013), the acceptance of mobile banking (Baptista and Oliveira 2015), the acceptance of digital financial advice solutions (Gerlach and Lutz 2021), or the intention to adopt fintech services (Hu et al. 2019) also cannot confirm the positive relationship between effort expectancy and usage intention.

Even though contradicting results have been found for the effect of effort expectancy, we believe in its influence on perceived benefit and thus hypothesize that the variable has a positive effect on perceived benefit.

H2.4 Effort expectancy positively affects perceived benefit.

Trust is one of the main factors in the extended valence framework and is found to have a significant influence on the variables perceived benefit, perceived risk, and willingness to purchase, which falls under behavioral intention. This relationship has been subject of prior studies. One widely accepted definition from Mayer, Davis, and Schoorman (1995) refers to trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". Cheng et al. (2019) in their study built a model in the context of robo-advisors to investigate factors influencing trust in vendor and trust in technologies to show that the two dimensions of trust result into trust in robo-advisors and find a positive correlation. Trust in vendor and trust in technology are two equally important aspects when investigating trust in the context of usage intention (Siau and Shen 2003). Based on these results, we have developed the construct trust, which combines both aspects trust in vendor and trust in technology into one variable. Trust in vendor, on the one hand, is a multi-dimensional construct consisting of trusting belief and trusting intention. Trusting belief is the perception of the vendor's competence, benevolence, and integrity. Trusting intention is the willingness to depend on the vendor and make oneself vulnerable to the vendor (McKnight, Choudhury, and Kacmar 2002). Trust in technology, on the other hand, formed by the two components trusting intention in technology and trusting belief in technology, is defined as the willingness to depend on a specific technology in a situation in which negative consequences are possible (Mcknight et al. 2011). The relationship between trust and the intention to use digital financial solutions has been subject to numerous studies in the past. For instance, Lee's (2009b) research work about the adoption of online trading shows the significant positive relationship between trust and consumers' behavioral intention to use. In a similar study which investigates the interaction between perceived risk and trust in the context of the intention to use online banking, trust is considered to have a positively moderating effect on perceived risk

and the intention to use. This study additionally supports the direct positive relationship between trust and user intention (Kaur and Arora 2021). Furthermore, Kesharwani and Bisht (2012) in the context of Internet banking usage behavior, confirm the negative correlation between trust and perceived risk and the negative influence of perceived risk on behavioral intention. Thus, trust has the ability to reduce consumers' perceived risk and in turn increase individuals' behavioral intention to use Internet banking services. Additionally, in their study determining the users' intention to adopt fintech services, Meyliana, Fernando, and Surjandy (2019) provide strong support for the relationship between trust and perceived usefulness. Perceived usefulness in turn influences the intention to use, thus confirming the positive indirect relationship between trust and intention to use fintech services. Similar results are provided by the study of Hu et al. (2019) which concludes that trust has a significant influence on the intention to adopt fintech services (Roca, García, and de la Vega 2009) indirectly through users' attitude towards adoption. Chin et al. (2020) as well confirmed the influence of trust on consumers' intention of using mobile payment systems within the extended valence framework. The positive correlation of trust and perceived benefit was also confirmed in the study, but no significant influence of trust on perceived risk and of perceived risk on intention to use was found. Similar to this, the study by Luo et al. (2010) could neither confirm the hypothesis, that trust has a direct influence on usage intention, nor the indirect influence of trust on behavioral intention via perceived risk in the context of mobile banking services. As an explanation for these results, which contradict earlier studies, Chin et al. (2020) refer to the context-specific investigation of mobile payment solutions. As consumers are highly dependent on this type of service, they have stopped worrying about the risks. At this point it must be emphasized that our research refers to another service than mobile payment, namely DFSIA. Hence, despite this study and in line with other studies mentioned above, which confirm the negative correlation, we believe in the negative influence of trust on perceived risk. Also, we believe in the

correlation between trust and perceived benefit as well as in the direct relationship between trust and behavioral intention to use DFSIA and suggest the following hypotheses.

H3.1 Trust negatively affects perceived risk.

H3.2 Trust positively affects perceived benefit.

H4 Trust positively affects future intention to use DFSIA.

Based on the extended valence framework proposed by Kim, Ferrin, and Rao (2009) we expect perceived risk and perceived benefit to mediate the relationship between trust and future intention to use DFSIA.

H5.1 The relationship between trust and the future intention to use DFSIA is mediated by perceived risk.

H5.2 The relationship between trust and the future intention to use DFSIA is mediated by perceived benefit.

Experience refers to a consumer's familiarity with a product or service (D. J. Kim, Ferrin, and Rao 2008). It begins with the first opportunity to use a technology and is expressed as a period of time from the first use (Venkatesh, Thong, and Xu 2012). In UTAUT and UTAUT2 experience is used as a moderator together with age and gender on the relationship between the independent variables and behavioral intention (Venkatesh et al. 2003). Gerlach and Lutz (2021) use experience as a moderator as well. Hereby, the extent to which the consumer has used digital financial advice solutions positively moderates the relationship between perceived benefit as well as perceived risk and usage intention. If the services have been used before, the study shows that perceived benefit was strengthened, and perceived risk was weakened (Gerlach and Lutz 2021). Therefore, we expect a moderating effect of experience on the relationship between perceived risk and perceived benefit and future intention to use DFSIA.

H6.1 Experience positively moderates the relationship between perceived risk and the future intention to use DFSIA.

H6.2 Experience positively moderates the relationship between perceived benefit and the future intention to use DFSIA.

Social influence is measured by how much the adoption decision is manipulated by a user's social environment. On the one hand, the approval or disapproval of using the product by people who are important to the consumer plays an important role, for example family members and friends. On the other hand, depending on how the product is perceived by society, it may have an impact on a person's social standing. Hereby, negative or positive opinions can be transferred to the usage intention (Lee 2009a). Venkatesh et al. (2003), investigate social influence as a factor for usage behavior towards IT. In this case, a positive effect could only be validated when the moderators age, gender, voluntariness and experience were also considered (Venkatesh et al. 2003). In the field of mobile marketing, social norms have been shown to have only a small indirect influence on a consumer's behavioral intention (Bauer et al. 2005). Other findings appear in studies regarding the adoption of Internet banking, where potential disapproval of customers' social environment could not be proven as a factor that significantly affects the attitude and thus the usage intention (Lee 2009a). Nevertheless, in recent literature the significant relationship between social influence and behavioral intention was found in the field of technology acceptance (Venkatesh, Thong, and Xu 2012) as well as in online (Kaur and Arora 2021) and Internet banking usage (Yoon and Barker Steege 2013; Kesharwani and Bisht 2012). Thus, we expect the following hypothesis.

H7 Social influence positively affects future intention to use DFSIA.

In the context of information services, habit refers to the process by which consumers begin to perform activities automatically as they become familiar with them (Limayem, Hirt, and Cheung 2007). The construct was added in the course of extending UTAUT, and positively influences usage directly as well as indirectly through behavioral intention (Venkatesh, Thong, and Xu 2012). Gerlach and Lutz (2021) confirm this relationship in their study on the behavioral

intention to use digital financial advice solutions. Another study confirms that habit along with performance expectancy and hedonic motivation most significantly influence behavioral intention (Baptista and Oliveira 2015). Accordingly, we expect a positive relationship between habit and future usage intention and suggest the following hypothesis.

H8 Habit positively affects future intention to use DFSIA.

Appendix A3 gives an overview of all hypotheses and the underlying literature. In the previous section, we presented the literature-based hypotheses to address our research questions. So far, research has mainly focused on different combinations of UTAUT and its extension, TAM and its extension, and the net valence framework to investigate usage intention in several contexts. To the best of our knowledge, no other study examined the intention to use DFSIA by combining UTAUT2 and the extended valence framework. What further distinguishes our research from prior studies is the focus on Germany as well as a direct comparison of three types of providers for investment services and activities. We predict a direct influence of trust, perceived risk, perceived benefit, social influence, and habit on users' intention to use DFSIA. Additionally, we expect perceived risk and perceived benefit, with its determining factors, to play a mediating role in the relationship between trust and the intention to use DFSIA. We consider experience as a possible moderator in these interactions.

3. Data, Methodology, Results, and Discussion

To test the above-mentioned hypotheses, we developed an online questionnaire. In the survey, each variable is represented by one to four items derived from literature examining future usage intention in the financial technology context. Appendix A4 gives an overview of the items and the related literature. All items are measured on a five-point Likert scale ranging from 1 ('Strongly disagree') to 5 ('Strongly agree'). There are three questionnaires that examine the future usage intention of DFSIA, one for each provider, namely neobanks, neobrokers, and robo-advisors. The core questionnaire, which is related to the model and its variables, is

included in each survey. In addition to the core questionnaire, each survey includes a provider-specific introduction as well as several questions which cover provider-specific topics. Appendices A5 and A6 show the complete questionnaires for all three providers in English and German, respectively. The analysis of the data for answering the four research questions is based on three regression models. Model 1 serves to examine the effects of trust, perceived risk, perceived benefit, social influence, and habit on the future intention to use DFSIA. Furthermore, the moderating effect of experience on the relationships between perceived risk as well as perceived benefit and the future intention to use DFSIA is examined within model 1. For the analysis of the mediating effects of perceived risk and perceived benefit, models 2.1, 2.2 and 3 must be considered additionally. On the one hand, model 2.1 serves to evaluate which of the risk factors technology risk, security risk, financial risk, and operational risk as well as trust significantly influence perceived risk. On the other hand, model 2.2 aims at establishing the effect of the benefit factors performance expectancy, hedonic motivation, price value, and effort expectancy as well as trust on perceived benefit. Model 3 is included in the analysis to confirm the possible mediating effect.

In the following, the work is divided into three strands: neobanks, neobrokers and robo-advisors. First, the respective provider is introduced. Second, data collection and reliability of the model and its variables are described. Third, the results including descriptive and inferential statistics are presented together with hypotheses testing. Lastly, the findings are discussed, and recommendations are identified.

3.1. Neobank

3.1.1. Introduction

The statement *"Banking is necessary, banks are not."* from Bill Gates in 1994 precisely illustrates the digital transformation of the banking industry. During the past 20 years, and specifically since the global financial crisis, neobanks and other fintech companies started using new technologies and adapted to changing consumer demands and expectations to make banking services available anywhere and anytime. In this context, customer experience and personalized offerings play a major role (Chemmanur et al. 2020).

It is essential to understand the differences between traditional banks, digital banks and neobanks. Traditional banks operate physical branches as well as digital services, while digital banks lack those branches and offer purely online services (Brockhurst 2019). The most popular online banks in Germany in 2020 are ING-DiBa, DKB and Comdirect Bank (Statista 2021a) all belonging to a larger bank or banking group. Neobanks also operate without branches and some even offer a mobile version exclusively. In comparison to digital banks being backed by large financial institutions, neobanks are independent (Brockhurst 2019). The most used neobanks in Germany, N26 and Revolut, both hold their own banking license. Other neobanks collaborate with an incumbent bank and can thus be considered 'financial intermediaries' (Schmidt 2021).

Among the early adopters of neobanks are mainly millennials (Brockhurst 2019). In Europe, the typical neobank user-profile is a young and urban consumer who is digitally active and has a rather high income. That is around 38% of neobank clients have a yearly income above 40,000 euros. Thus, they differ considerably from traditional bank customers (Oliver Wyman 2019). Whereas N26 has a strong focus on the above-described millennial target audience, other neobanks operating in Germany target different consumer segments. For instance, Tomorrow focuses on sustainability and thus targets people valuing eco-friendliness. Insha is targeted at

Muslims and Pockid targets teenagers. Moreover, the new player Brygge supposedly launching in spring 2022 targets people above 55 years of age (Düll 2021).

There are four main areas in which neobanks created innovation and thus advantages for consumers. Firstly, they enhanced customer experience through increasing convenience and engagement as well as accelerating the account opening process. Secondly, neobanks provide consumers with a much broader range of tools for money management. This includes real-time spending notifications, insights into spending habits and several sub-accounts that can be used to allocate money to certain purposes like saving for a holiday (Hopkinson and Klarova 2019). Thirdly, the absence of physical branches and an efficient use of technologies result in a low costs-structure that allows neobanks to offer accounts without monthly fees or withdrawal costs (Walden and Strohm 2021) and a quick implementation of changes and new features. Lastly, neobanks communicate more transparently with the public by reporting about their operations and finances and generally interacting in a less business-like tone with their clients (Hopkinson and Klarova 2019). Consequently, the top reasons for German consumers in 2019 to use a neobank account are price (19%), look and feel and usability (16%), trust (14%), instant notifications (12%) and easy saving (12%) (Oliver Wyman 2019). On the contrary, the lack of physical branches and a smaller range of services to customers could be disadvantages for consumers (Walden and Strohm 2021). Although the range of products that neobanks offer is not broad yet, with increased growth, new products are developed (Tuum n.d.).

Most neobanks started with simple current accounts and debit cards (Hopkinson and Klarova 2019) such that they usually earn money by charging fees for premium accounts, interchange fees and other fees for example from withdrawals (Kirchner 2021). Since then, the offer has been expanded predominantly towards lending and savings products (Hopkinson and Klarova 2019). Nonetheless, few neobanks succeeded in becoming profitable to date. This shows that

at some point, the focus needs to shift from growth to generating revenues and becoming a sustainable business (Tuum n.d.).

The global pandemic made it even more urgent to focus on profitable revenue streams such that UK-based Revolut recently shifted its efforts towards stock trading, crypto assets and business accounts (Browne 2021). So far, few neobanks have launched an online trading feature. While Revolut introduced the feature in 2019 (Browne 2019), the most popular neobank in Germany, the Berlin-based N26, announced the feature including trading of stocks, ETFs, and crypto assets for 2022 (Steinschaden 2021).

Even though the enhanced customer experience still represents an advantage of neobanks over traditional banks, incumbents start to catch up by building their own digital banks and collaborating with fintechs (Hopkinson and Klarova 2019). This emphasizes the importance of distinguishing from traditional banks not only through the customer experience and strong brand but through products and services that add value for consumers (Archondakis et al. 2020).

A further challenge that neobanks face is winning consumers' trust. As new entrants to the market, neobanks need to prove their trustworthiness to convince consumers of opening an account and using it as their main account (Hopkinson and Klarova 2019). Unfortunately, the uncertainty of the pandemic led to a halt in the rise of consumers' trust in neobanks and despite fast user growth of neobanks, many consumers' primary account remains with a traditional bank (Accenture 2021). Globally, 82% of consumers are extremely or at least slightly happy with their bank. If such a high share of consumers is satisfied with their bank, it is challenging for neobanks to reach critical mass (Archondakis et al. 2020). As such it is essential to narrow down which factors are critical in determining consumers' usage intention of neobanks, and in particular the intention to use an online trading feature that could on the one hand help to acquire more customers and on the other hand be a profitable revenue stream.

3.1.2. Data Collection and Reliability

To test the research model with its associated hypotheses that were developed in section two, primary data was collected via a self-administered questionnaire targeted at Germans. The tool used for the questionnaire is Qualtrics XM and the data was analyzed using Microsoft Excel. Prior to distributing the survey, a pre-test was carried out to detect possibly confusing statements and questions or mistakes. Based on the feedback about the length of the survey, some not too relevant questions were eliminated to shorten the survey such that respondents would not cancel filling it in. Moreover, some smaller changes were made in the wording. The final survey was sent via WhatsApp and Instagram on the 17th of November 2021. Out of 121 responses that were collected after one week, 15 had to be excluded, as they have not been completed and six due to the respondents being non-German.

Appendix B1 gives an overview of the demographics. The final sample contains 100 respondents out of which 50 are female, 47 are male and three preferred not to say. While the average age is M = 33 years (SD = 15.02), the median is 25 years. Thus, most respondents are between 23 and 30 years old (66.00%). The second biggest group is between 51 and 60 years old (17.00%), 8.00% of participants are younger than 23 years and 6.00% older than 60 years. Whereas there are two respondents between 31 and 40, there are none between 41 and 50 years of age and one respondent prefers not to say. Looking at respondents' education and employment status, most of them hold a university degree (80.00%) or at least a higher education entrance qualification (13.00%) and are still students (56.00%) or employed (36.00%). The monthly disposable income of nearly four out of five respondents ranges either between 0 and 1,000 euros (39.00%) or between 1,000 and 3,000 euros (40.00%). 81.00% of respondents regularly save money, and among those who invest, fonds inclusive ETFs (57.00%), stocks (51.00%) and crypto currencies (23.00%) are the most popular investments. 25.00% of respondents do not make investments and 8.00% prefer not to say.

To assess the reliability of the model and variables, Cronbach's alpha (Cronbach 1951) for the overall model as well as the coefficients' alphas (Miller 1995) were calculated. The model alpha is 0.75 which means that the overall model's reliability is acceptable. The variables' alphas range between 0.41 and 0.93. The reliability of three variables is excellent ($\alpha > 0.9$), of six good ($\alpha > 0.8$) and of two acceptable ($\alpha > 0.7$). Only the reliability of technology risk with $\alpha > 0.5$ is critical and of habit with $\alpha \leq 0.5$ is inacceptable. For the variables experience and behavioral intention a coefficient's alpha could not be calculated as both consist of one item only. Appendix B2 provides an overview of the variables' alphas.

3.1.3. Results

3.1.3.1. Descriptive Statistics

In this section, further questions characterizing the respondents and their usage of neobanks as well as the variables belonging to the research model are presented. On average, respondents believe that their knowledge about digitization is M = 3.69 (SD = 0.81) and about investment M = 2.95 (SD = 1.10), respectively, where a minimum of 1 ('Very low') and a maximum of 5 ('Very high') could be chosen. Respondents rate their risk attitude with M = 3.28 (SD = 0.95), where 1 refers to 'Not at all willing to take risk' and 5 to 'Very willing to take risk'. The average score for the importance of personal contact when using financial products is M = 2.78 (SD = 1.19), the average score for the importance of one single provider offering the full range of products is M = 2.99 (SD = 1.06) measured on a scale from 1 ('Not at all important') to 5 ('Very important'). 61.00% of respondents believe that it makes a difference whether an incumbent or a new entrant offers online trading, while 25.00% believe that it does not. Looking at participants' experience with neobanks, 68 respondents have already heard of one of the following neobanks: bunq, Chime, Curve, Insha, Monese, Monzo, Nuri, N26, Paysend, Qonto, Revolut, Tomorrow, Vivid, Wise or Yuh, whereas 32 did not. Nonetheless, two thirds of respondents do not have an account with a neobank (64.00%). Among the respondents who

have an account, N26 is clearly the most chosen provider (25.00%) followed by Revolut with 9.00%. Few respondents have an account with other neobanks. During the survey, only respondents who have a neobank account were asked whether they use it as their main account and whether they already used an online trading function of their neobank or plan to do so in the future. Out of the 36 respondents who have a neobank account, nine use it as their main account (25.00%) and 18 already used or plan to use the online trading feature (50.00%). The remaining 64 respondents saw a multiple-choice question about their reasons against opening an account. The most common answer is 'I am satisfied with my current bank.' (56.96%). While some did not know of neobanks before completing the survey (15.19%), others think that it takes too much effort to switch (12.66%) or do not have confidence in neobanks (12.66%). After the split logic, all respondents were asked about reasons convincing them of opening a neobank account or using their existing neobank account as their main account. Bundling multiple services like travel insurance, online trading, or credit cards is the most popular choice (43.00%), followed by better customer experience (33.00%) or a welcome offer (25.00%). However, 24.00% indicate that nothing would make them switch. Appendix B1 shows these results in detail.

The mean values and standard deviations of the variables related to the research model are presented in Appendix B2. 26.00% of respondents indicate that they used online trading services of a neobank before and are thus considered to have experience. The average future intention to use the online trading service of a neobank in the future is M = 3.41 (SD = 1.28). In detail, more than half of respondents consider using it in the future (52.00%). 24.00% are indecisive and chose 'neutral' whereas 24.00% do not agree. Looking at the determinants of perceived risk and perceived benefit, on the one hand, the mean values for technology risk (M = 2.62, SD = 1.00), security risk (M = 3.04, SD = 1.12), financial risk (M = 3.03, SD = 0.91), and operational risk (M = 2.86, SD = 0.85) show, that consumers on average believe security

and financial risk to be slightly higher than technology and operational risk. Average perceived risk with M = 2.61 (SD = 0.84) indicates that respondents slightly tend to disagree with seeing disadvantages and risks in the use of online trading services provided by neobanks. On the other hand, the mean values of performance expectancy (M =3.57, SD = 0.92), hedonic motivation (M = 2.93, SD = 1.04), price value (M = 3.79, SD = 0.87), and effort expectancy (M = 3.68, SD = 0.97) show that respondents on average tend to see benefits in using online trading services provided by neobanks. However, this does not hold true for hedonic motivation as the mean is below three. Perceived benefit with M = 3.50 (SD = 0.92) is in line with the factors that are expected to influence perceived benefit as it also shows a tendency of respondents to agree with the items. Trust with M = 3.37 (SD = 0.72) is combined of two items related to trust in vendor and two items related to trust in technology. The results show that on average respondents slightly tend to agree to neobanks being trustworthy and to advanced technologies being beneficial and mature. In addition, social influence with M = 2.68 (SD = 0.91) as well as habit with M = 2.31 (SD = 0.92) show that respondents do not have strong beliefs about the role of social influence and the development of a habit or addictive behavior.

3.1.3.2. Inferential Statistics and Hypotheses Testing

Three regression models have been performed for hypotheses testing. Figure 3 illustrates the complete research model including the path coefficients as well as the related significance levels. The detailed statistical results of model 1 are presented in Appendix B3. With adjusted $R^2 = 0.599$, the model is significant ($p < 0.01$), and the independent variables explain 59.9% of the variance in behavioral intention. However, only for perceived benefit, trust, and social influence a significant effect on usage intention can be verified. Perceived benefit with $b = 0.364$ and $p < 0.05$ is statistically significant. The coefficient of trust $b = 0.466$ ($p < 0.01$) shows that trust also statistically influences the future usage intention. The third significant influence stems from social influence with $b = 0.243$ and $p < 0.05$. However, trust exerts the strongest

influence on the usage intention with a one-unit increase in trust raising usage intention by 0.466. On the opposite, significant effects for perceived risk, experience and habit cannot be demonstrated. Perceived risk with b = -0.149 (p > 0.1) is nonsignificant as the p-value is greater than the usual significance levels. The same applies for habit with b = 0.175 (p > 0.1). Though a moderating effect of experience on the relations between perceived risk (perceived benefit) and usage intention was hypothesized, the interaction terms added to the multiple regression to test the moderating effect both are insignificant with p-values greater than 0.1. These results support hypotheses H2, H4 and H7, whereas they contradict H1, H6.1, H6.2 and H8.

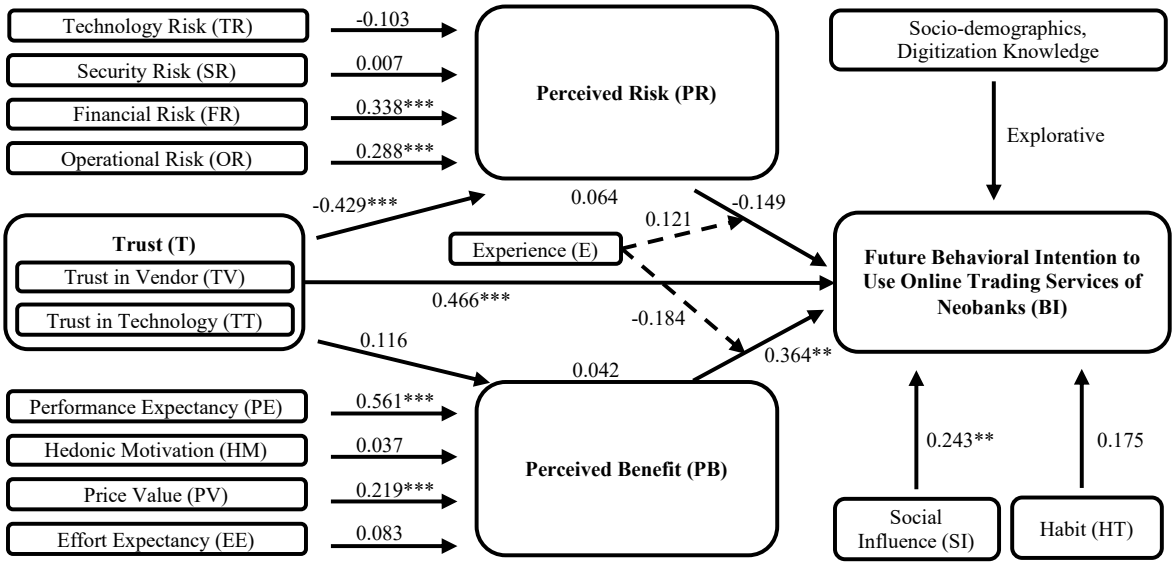

*Figure 3: Research Model with Path Coefficients; with Significance Levels *** p < 0.01, ** p < 0.05, * p < 0.1*

Models 2.1 and 2.2 test the direct effects of the four risk-related (benefit-related) factors and trust on perceived risk (perceived benefit). Detailed statistical results are presented in Appendices B4 and B5. Model 2.1, with adjusted $R^2 = 0.563$, is statistically significant ($p < 0.01$) which means that technology risk, security risk, financial risk, operational risk, and trust explain 56.3% of the variation in perceived risk. Nevertheless, not all variables significantly influence perceived risk. On the one hand, financial risk with b = 0.338 ($p < 0.01$) and operational risk with b = 0.288 ($p < 0.01$) are statistically significant and influence perceived risk positively. Trust with b = -0.429 ($p < 0.01$) exercises a statistically significant negative

influence on perceived risk. On the other hand, significant effects of technology risk (b = -0.103, p > 0.1) and security risk (b = 0.007, p > 0.1) on perceived risk cannot be proven.

The adjusted R^2 = 0.695 (p < 0.01) of the statistically significant model 2.2 indicates that performance expectancy, hedonic motivation, price value, effort expectancy, and trust explain 69.5% of variance in the dependent variable, perceived benefit. Performance expectancy with b = 0.561 (p < 0.01) and price value with b = 0.219 (p < 0.01) significantly influence perceived benefit. Nonetheless, significant effects for hedonic motivation (b = 0.037, p > 0.1), effort expectancy (b = 0.083, p > 0.1) and trust (b = 0.116, p > 0.1) could not be confirmed. Thus, the findings of models 2.1 and 2.2 support the hypotheses H1.3, H1.4, H2.1, H2.3 and H3.1. On the opposite, H1.1, H1.2, H2.2, H2.4 and H3.2 are rejected.

To examine the mediating effect of perceived risk and perceived benefit, models 1, 2.1, 2.2 and 3 are considered jointly. According to Baron and Kenny (1986) four conditions need to be satisfied to verify a mediation. Firstly, the independent variable trust must have a significant effect on the mediators perceived risk and perceived benefit. Thus, the first step is regressing the mediators perceived risk and perceived benefit onto trust. This was completed with models 2.1 and 2.2 and yields the path coefficients a_1 = 0.429 and a_2 = 0.116 of which only the first is statistically significant. Figure 4 illustrates the expected moderated mediation.

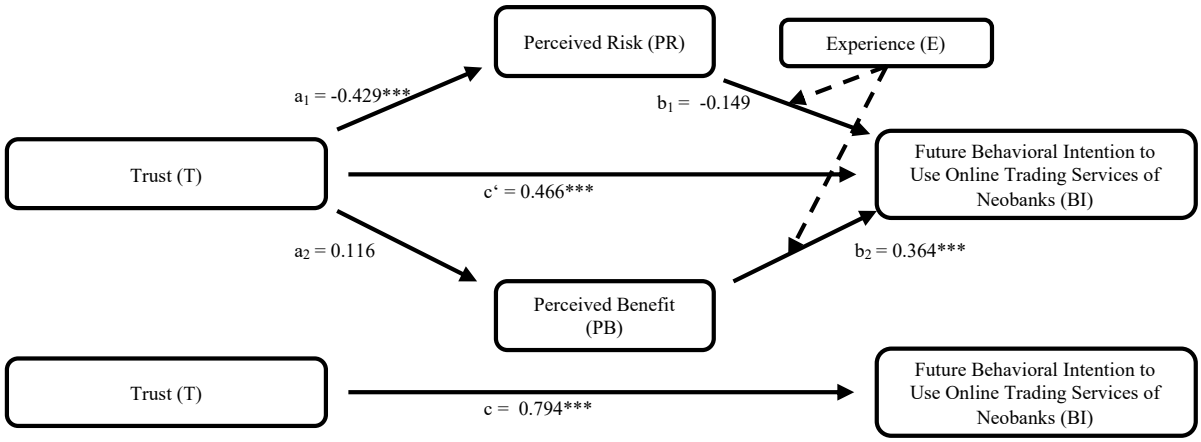

*Figure 4: Top: Moderated Mediation with Path Coefficients, Bottom: Additional Model for the Mediation Analysis; with Significance Levels *** p < 0.01, ** p < 0.05, * p < 0.1*

Secondly, the independent variable trust should have a significant effect on the dependent variable future usage intention in a model that excludes the mediator variables (Baron and Kenny 1986). Model 3 (adjusted $R^2 = 0.552$, $p < 0.01$) shows that trust with $b = 0.794$ ($p < 0.01$) significantly affects future usage intention. The regression coefficient corresponds to the path coefficient c for the mediation analysis. Figure 4 illustrates this relationship and Appendix B6 displays the statistical results.

Thirdly, the mediators must affect the dependent variable significantly and fourthly, the effect of the independent variable on the dependent variable should be lower when the multiple regression also includes the mediators. Thus, c' should be smaller than c (Baron and Kenny 1986). Accordingly, a regression with the independent variable trust, the mediators perceived risk and perceived benefit, the moderator and both interaction terms between moderator and mediators as well as the dependent variable behavioral intention must be conducted. This is covered by model 1. It yields the path coefficients $b_1 = -0.149$ and $b_2 = 0.364$ as well as $c' = 0.466$ for the direct effects of the moderators and trust on future usage intention. However, b_1 is not statistically significant (see Figure 4). To sum up, only conditions two and four are completely satisfied. Conditions one and three are partly satisfied, as the first held true for the moderator perceived risk, and the third held true for the moderator perceived benefit.

To complete the mediation analysis, the indirect effects of trust on behavioral intention through perceived risk ($a_1b_1 = 0.064$) and through perceived benefit ($a_2b_2 = 0.042$) are calculated. Hence, the total effect of trust on future usage intention amounts to 0.573 ($a_1b_1 + a_2b_2 + c'$). This shows that only 11.14% (7.40%) of the total effect of trust is covered by the indirect effect via perceived risk (perceived benefit). The significance of the indirect effects is estimated with the Sobel test (Preacher and Leonardelli n.d.). The test shows that both indirect effects are nonsignificant ($p > 0.1$). This is displayed in Appendix B7.

As neither the indirect effects are significant, nor all conditions from Baron and Kenny (1986) are satisfied, a mediating effect of trust via perceived risk or perceived benefit on the future usage intention cannot be confirmed. Thus, hypotheses H5.1 and H5.2 are rejected. Appendix B8 provides an overview of the results of hypotheses testing.

To find out whether there are differences in usage intention between age groups, genders, or the level of digitization knowledge, three t-tests have been performed. Statistically significant differences have been found for all three categorizations presented in Appendices B9, B10 and B11. For males with M = 3.97 (SD = 1.17), the average usage intention is significantly higher than for females with M = 3.02 (SD = 1.25). There are even larger differences between age groups. 18- to 40-year-old respondents with M = 3.86 (SD = 1.96) have a substantially higher average usage intention than respondents above 40 years of age with M = 2.13 (SD = 1.46). Lastly, respondents are divided by degree of digitization knowledge. Those with digitization knowledge have a significantly higher average usage intention with M = 3.78 (SD = 1.94) than those without (M = 2.89, SD = 1.70).

3.1.4. Discussion and Recommendations

This study provides interesting insights into which factors are critical for Germans' future intention to use online trading services of neobanks. In the following, the above-presented results are discussed, and the research questions are answered. Considering the findings, two practical implications and possible recommendations are derived.

The primary objective of the neobank-related part of the study was to clarify the roles of trust, perceived risk, and perceived benefit in influencing the future usage intention of online trading services provided by neobanks (RQ1). In addition, a possibly mediating role of perceived risk and perceived benefit in the relationship of trust and usage intention (RQ2) and the determinants of perceived risk and perceived benefit were investigated (RQ3). Lastly, the study aims at answering whether experience has a moderating effect on the relationship between perceived

risk or perceived benefit and future usage intention of online trading services provided by neobanks (RQ4).

Firstly, the study shows that trust is the strongest determinant of usage intention meaning that consumers who believe that neobanks and advanced technologies are trustworthy, are more likely to use or intend to use such a service. Trust is moreover shown to decrease perceived risk significantly. In addition to trust, perceived benefit is a determinant of usage intention, meaning that people who see benefits in using online trading services provided by neobanks are also more likely to use or intend to use such services.

Perceived risk is positively influenced by financial and operational risk meaning that consumers who see disadvantages in the use of online trading services by neobanks mainly worry about financial losses and internal process risks rather than the use of advanced technologies or data security. On the benefit side, performance expectancy and price value are predicting perceived benefit. Thus, consumers who see advantages in the use of online trading services provided by neobanks see benefits mainly in potential financial gains, increased efficiency, and low costs. In comparison, a link between possible benefits related to the ease of use or fun and entertainment on perceived benefit cannot be established.

To sum up, consumers who do not intend to use online trading services provided by neobanks have different perceptions about neobanks' trustworthiness, their benefits, and risks than respondents who do. They perceive neobanks to be less trustworthy, see less benefits in the use of their services and perceive potential risks to be higher. Consequently, it is essential for neobanks to increase efforts towards building a trustful relationship with potential consumers. This not only increases usage intention, but also reduces the extent to which consumers perceive online trading services of neobanks as risky. Beyond trust building, it could be helpful to provide consumers with transparent and easily understandable information material being accessible via the providers' websites. Consumers could get informed about the benefits that

neobanks' products and services offer, and which measures are taken to minimize or even avoid risks. Ultimately, such a transparent approach could increase consumers' trust and improve neobanks' reputations, which is important as they are new entrants to the banking sector.

Another effect on usage intention that should not be forgotten is exercised by social influence. The future usage intention of consumers is positively affected by people who are important to them or who influence their behavior meaning that the opinions of family and friends as well as of public influencers play an important role in the decision to use online trading services of neobanks. Thus, it could be valuable for neobanks to collaborate with trustworthy influencers. Such third-party individuals could advertise neobanks' products, give their audience information about them, and even help to educate their followers for instance about online trading.

Secondly, there is generally high interest in services provided by neobanks, illustrated by half of respondents indicating that they intend to use or continue to use online trading services of neobanks in the future. Additionally, more than one third of respondents would consider opening a neobank account if the neobank were to offer a broader variety of services. However, most respondents who do not have a neobank account are satisfied with their traditional bank. According to Accenture (2021), satisfaction with the traditional bank is the reason also for not using an existing neobank account as main account. In this study, only one out of four respondents who have a neobank account use it as their main account. Thus, there is great potential for neobanks not only to acquire more consumers, but also to cross-sell products to existing customers and convince them to actively use their account.

Consequently, it is essential for neobanks to be well-informed about customer expectations and to develop the product portfolio according to consumers' needs. New or modified products could potentially add value to consumers' everyday life, convincing them of opening a neobank account and actively using it. The integration of products related to online trading, lending, or

insurance could result in a financial platform that reconciles all financial products that consumers demand. Beyond this, neobanks have the option to grow outside of financial services like Revolut does with hotel bookings and shopping offers. This would result not only into a financial platform but a platform that covers all money-related topics from banking, stock trading and crypto assets to shopping and insurance (Steinschaden 2021). Neobanks would do well to accompany the implementation of services such as stock trading with sufficient material educating consumers about investing. Providing easy to understand as well as transparent information increases trust and encourages users to try such services.

The analysis of the usage intention of consumer groups subdivided according to age, gender and digitization knowledge gives further noteworthy insights into the growth potential of different consumer segments. More specifically, younger, or male consumers, and those who are rather familiar with digitization significantly more often intend to use or already use online trading services of neobanks, than older or female consumers with less digitization knowledge. Thus, the main target segment are male millennials who are familiar with digital products. To convince other target groups of the usage of neobank services, more trust-building measures, and communication of benefits as well as measures against risks might be necessary.

To conclude, neobanks could tackle critical factors determining consumers' usage intention of online trading services by focusing communication to consumers on the value that is added through extending the range of offers and by implementing measures to both build trust and decrease the perception of potential risks. Moreover, enlarging the offering with value creating products and services like an online trading feature could boost customer growth and retention of existing clients. Beyond benefits for consumers, profitable products and services could help neobanks both to become financially sustainable businesses and to not fall behind or be acquired by incumbents who start to catch up in terms of user experience and features.

4. Limitations and Future Research

The present study has several limitations. These should be pointed out, to better understand the results of this study and for future research on the behavioral intention to use DFSIA.

Looking at Cronbach's alpha of the general models and the individual constructs, the reliability of the general models as well as some variables is questionable. In addition, the research findings are based on data from a relatively small sample size with N = 100 participants in the neobanks survey, N = 69 participants in the neobroker survey, and N = 82 participants in the robo-advisor survey. Due to the small sample sizes of all three surveys, the results of the product-specific parts of this paper cannot be compared properly. Additionally, most of the respondents are from the age group between 23 and 30 years while few individuals represent the age groups between 30 and 50 years of age. Accordingly, the samples are not an optimal representation of German population. This indicates limits to the generalizability of our results. Furthermore, a selection bias may have occurred due to the uneven distribution of age groups. This means that the results could be biased because many respondents are in the same age group.

Moreover, it should be mentioned that the survey was originally designed in English and subsequently translated into German. The translation might have slightly changed the meaning and thus distorted the results.

Furthermore, the variables future behavioral intention to use DFSIA and experience were examined with only one item each. Future research could take a more in-depth approach at this point and query the future usage intention and experience in different ways. Although the other variables were measured with two items, further increasing the number of items could have raised the explanatory power of the model. To prevent respondents from discontinuing the survey early, a five-point Likert scale was used for the measurement of the items. However, a

seven-point Likert scale would give the participants more differentiated answer options and thus provide the researchers with a more accurate outcome.

Looking at the analysis of the data that was collected, it is important to mention that the Sobel test, which has been used in the mediation analysis for testing the significance of the indirect effects, is not suitable for small samples. It thus represents a weakness in our analysis. Options for future research could either be a larger sample or other methods for the analysis of mediation effects.

Another limitation of the survey relates to the question about the respondents' disposable income. Many of the participants were young students. Nevertheless, many participants claimed that their disposable income is between 1,001 and 3,000 euros. Accordingly, some may have misinterpreted the term 'disposable income' as their gross or net income even though an explanation was given.

In addition, several participants might not be familiar with the digital financial solutions subject to this study. Although we included a short description of the respective provider at the beginning of each survey, some might have been biased by the description or not have properly read it. In addition, the unfamiliarity with the services could have led to participants not understanding some items correctly and thus being uncertain when answering them. The confusion about the different providers also became obvious within the neobank survey, where two questions aimed at the number of people who already used online trading services of neobanks. The results differed meaning that some people wrongly indicated prior use.

To sum up, future studies should ensure that the sample includes people of all ages and social classes. Moreover, including a short explanatory video instead of a description about the respective provider before the survey could increase the likelihood that the participant will engage with it. Furthermore, a survey incorporating all three solutions for digital investment activities could lead to interesting results where consumers' perception about the three

providers and their intention to use can be compared directly. This would shed new light on users' usage intentions and show which providers individual consumers prefer. In addition, a comparison with other innovative providers and traditional institutions offering online trading or digital financial advice and wealth management services would also be conceivable. Such future studies would further enrich research on the acceptance of DFSIA. Apart from that, the research model that has been developed in this study could be applied to other digital financial solutions apart from investment activities such as providers of digital banking services, digital payments, or digital insurance.

5. Conclusion

The purpose of this study was to explore critical factors influencing the future usage intention of innovative digital financial solutions for investment activities. The work was divided into three strands to explore determining factors for the different solution providers: neobanks, neobrokers, and robo-advisors. In the following, the in section three outlined results of the four research questions directed at the different digital financial solution providers are opposed.

Answering the first and second research questions, trust and perceived benefit significantly influence the future usage intention in case of online trading services provided by neobanks. A mediating effect of trust on usage intention of online trading services provided by neobanks through perceived risk or perceived benefit could not be confirmed. In the case of neobrokers, the significant effect of perceived benefit as a mediator for the relationship between trust and behavioral intention was demonstrated. The future intention to use robo-advisors is influenced by trust. This relationship is mediated by perceived risk and perceived benefit. Thus, for all three service providers, trust plays an important role in determining future behavioral intention to use, although trust has different interactions with other factors examined. The main objective of the research model was to confirm a mediating role of perceived risk and perceived benefit in the relation of trust and future usage intention. However, the hypothesized intermediary role

of perceived risk and perceived benefit is only completely present in the study of the intention to use robo-advisors, and only through perceived benefit in the case of the intention to use neobrokers. Neither a mediating effect of perceived risk nor of perceived benefit in the relationship between trust and usage intention could be confirmed for neobanks. The third research question focused on factors that determine perceived risk and perceived benefit. It is interesting that financial risk and operational risk are determinants of perceived risk for all three providers, while technology risk and security risk do not have a significant influence in any use case. Whereas performance expectancy and price value are influencing perceived benefit in the context of all three providers, hedonic motivation only exercises a significant effect related to robo-advisory and neobrokers' services. The moderating effect of experience on the relationship between perceived risk or perceived benefit and future intention to use DFSIA, which was questioned in the fourth research question, could not be confirmed for any of the three providers.

Although we were able to confirm some hypotheses in line with the mainstream literature, other hypotheses could not be confirmed, contrary to the common literature. This could be due to both the limitations of this study, or the context of the services we investigated. The context might have resulted in different factors being relevant for the future usage intention of investment activities. There are few studies on the usage intention of online investment services. Therefore, the research model in this study is based on literature that examines the usage intention in the context of different digital financial services. Even though these studies might have found certain independent variables among the risk and benefit factors to be determinants of the dependent variables perceived risk and perceived benefit, the same factors might not be critical in our context. Thus, further studies in this area should be conducted to further explore and explain these discrepancies.

Nevertheless, the insights gained from this study are valuable for new and incumbent players in the digital financial world. Generally, there is broad interest towards the usage of the services provided by neobanks, neobrokers and robo-advisors indicating that there is still great growth potential for all three providers. However, a sizable part of the population remains skeptical about these innovative products. Based on the findings of this study, these can be convinced by targeted measures. To conclude, all three providers of DFSIA should increase measures for trust-building and emphasize the benefits in the communication to potential consumers. Moreover, continuing education about risks decreases consumers' perception especially of potential financial losses or operational issues. In addition, consumers should be provided with general information material on investing so that they feel more confident in using investment products.

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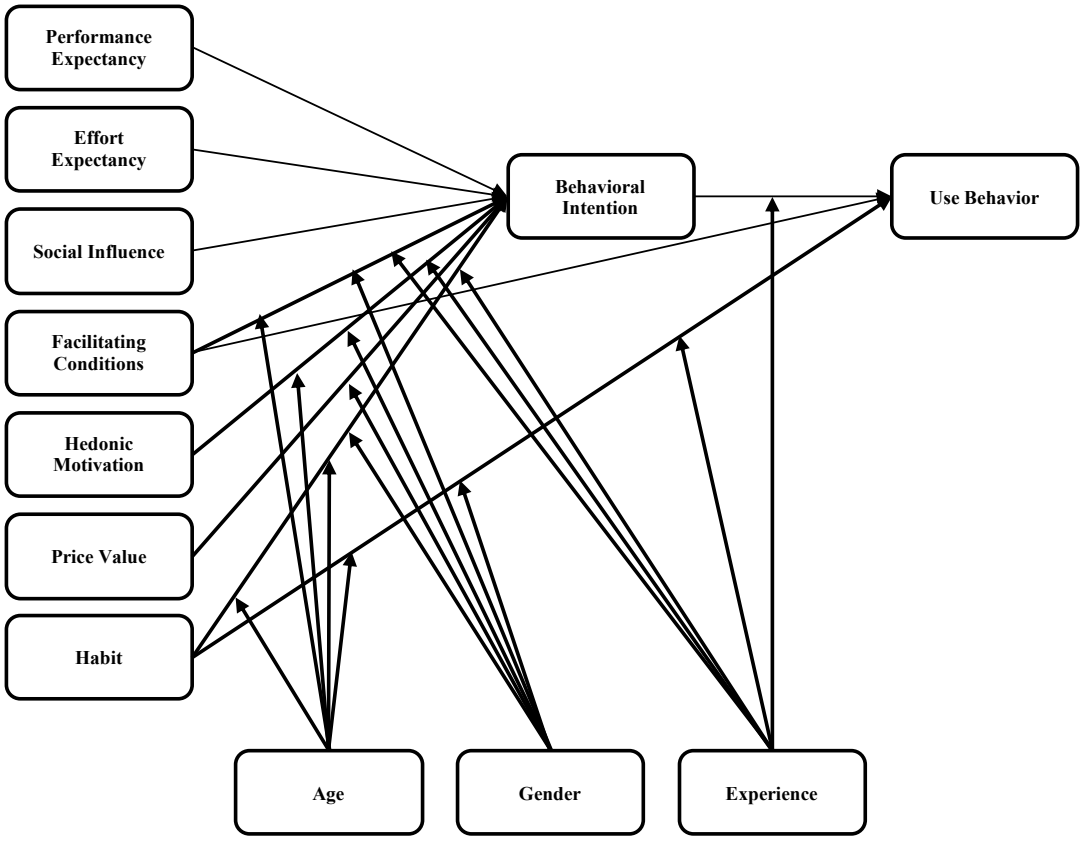
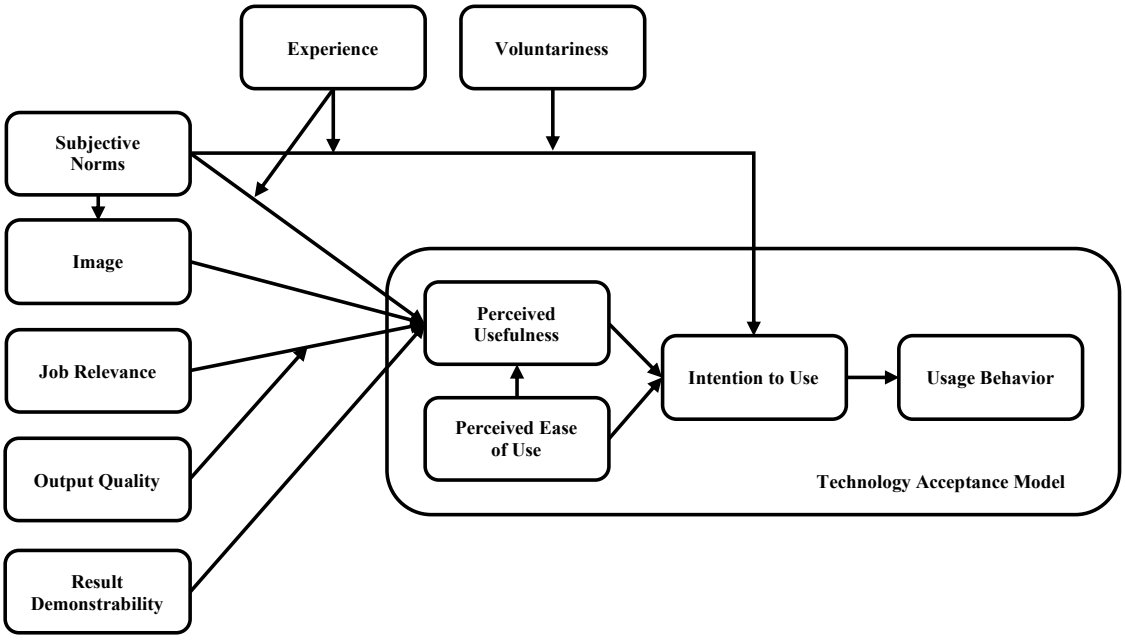
7. Appendix

7.1. Appendix A

Appendix A1: UTAUT2 (Venkatesh, Thong, and Xu 2012)



Appendix A2: TAM2 (Venkatesh and Davis 2000)



Appendix A3: Determining Variables, Hypotheses, and Related Literature

Variable	Hypotheses	Related Model / Baseline Theory	Related Literature
Perceived Risk (PR)	H1 Perceived risk negatively affects future intention to use DFSIA.	Extended Valence Framework	Peter and Tarpey (1975); Kuisma, Laukkanen, and Hiltunen (2007); Lee (2009b); Benlian and Hess (2011); Kesharwani and Bisht (2012); Gerlach and Lutz (2021)
Technology Risk (TR)	H1.1 Technology risk positively affects perceived risk.	Extended Valence Framework	n/a
Security Risk (SR)	H1.2 Security risk positively affects perceived risk.	Extended Valence Framework	Lee (2009a); Benlian and Hess (2011); Liu, Yang, and Li (2012); Ryu (2018b);; Gerlach and Lutz (2021)
Financial Risk (FR)	H1.3 Financial risk positively affects perceived risk.	Extended Valence Framework	Lee (2009a); Benlian and Hess (2011); Liu, Yang, and Li (2012); Abramova et al. (2016); Ryu (2018b); Gerlach and Lutz (2021);
Operational Risk (OR)	H1.4 Operational risk positively affects perceived risk.	Extended Valence Framework	Abramova et al. (2016); Ryu (2018b); Gerlach and Lutz (2021)
Perceived Benefit (PB)	H2 Perceived benefit positively affects future intention to use DFSIA.	Extended Valence Framework	Peter and Tarpey (1975); Lee (2009b); Benlian and Hess (2011); Gerlach and Lutz (2021)
Performance Expectancy (PE)	H2.1 Performance expectancy positively affects perceived benefit.	UTAUT2	Venkatesh, Morris, Davis and Davis (2003); Luo, Li, Zhang, and Shim (2010); Baptista and Oliveira (2015); Kaur and Arora (2021); Gerlach and Lutz (2021)
Hedonic Motivation (HM)	H2.2 Hedonic motivation positively affects perceived benefit.	UTAUT2	Brown and Venkatesh (2005); Venkatesh, Thong, and Xu (2012); Maditinos, Chatzoudes, and Sarigiannidis (2013); Baptista and Oliveira (2015); Kaur and Arora (2021); Gerlach and Lutz (2021)
Price Value (PV)	H2.3 Price value positively affects perceived benefit.	UTAUT2	Benlian and Hess (2011); Venkatesh, Thong, and Xu (2012); Gerlach and Lutz (2021); Kaur and Arora (2021)

Effort Expectancy (EE)	H2.4 Effort expectancy positively affects perceived benefit.	UTAUT2	Davis (1989); Venkatesh, Morris, Davis and Davis (2003); Lee (2009b); Ryu (2018a)
Trust: Trust in Vendor (TV) and Trust in Technology (TT)	H3.1 Trust negatively affects perceived risk. H3.2 Trust positively affects perceived benefit. H4 Trust positively affects future intention to use DFSIA.	Extended Valence Framework, Research model from Cheng et al. (2019, 4924)	Lee (2009b); Roca, García, and de la Vega (2009); Luo et al. (2010); Kesharwani and Bisht (2012); Cheng et al. (2019); Meyliana, Fernando, and Surjandy (2019); Hu et al. (2019); Chin et al. (2020); Chin, Harris, and Brookshire (2020); Kaur and Arora (2021)
Mediation	H5.1 The relationship between trust and the future intention to use DFSIA is mediated by perceived risk. H5.2 The relationship between trust and the future intention to use DFSIA is mediated by perceived benefit.	Extended Valence Framework	Kim, Ferrin, and Rao (2009)
Experience (E)	H6.1 Experience positively moderates the relationship between perceived risk and the future intention to use DFSIA. H6.2. Experience positively moderates the relationship between perceived benefit, and the future intention to use DFSIA.	UTAUT2	Venkatesh, Morris, Davis and Davis (2003); Venkatesh, Thong, and Xu (2012); Gerlach and Lutz (2021)
Social Influence (SI)	H7 Social influence positively affects future intention to use DFSIA.	UTAUT2	Venkatesh, Morris, Davis and Davis (2003); Bauer et al. (2005); Lee (2009a);
Habit (HT)	H8 Habit positively affects future intention to use DFSIA.	UTAUT2	Limayem, Hirt, and Cheung (2007); Venkatesh, Thong, and Xu (2012); Baptista and Oliviera (2015); Gerlach and Lutz (2021)
Explorative: Digitization Knowledge, Socio-demographic Character-istics	n/a	Gerlach and Lutz (2021), UTAUT2	n/a

Appendix A4: Items and Related Literature

Variable	Item(s)	Related Literature
Behavioral Intention (BI)	BI1: I intend to use (continue the usage of) X in the future.	Venkatesh, Thong, and Xu (2012), Gerlach and Lutz (2021)
Experience (E)	E1: Did you ever make use of X?	Venkatesh, Thong, and Xu (2012), Gerlach and Lutz (2021)
Perceived Risk (PR)	PR1: I see many disadvantages in using X. PR2: By using X I am exposed to many risks.	Venkatesh, Thong, and Xu (2012), Gerlach and Lutz (2021)
Technology Risk (TR)	TR1: I don't feel comfortable with using technology for investment decisions. (own wording) TR2: I see many concerns in using advanced technologies. (own wording)	n/a
Security Risk (SR)	SR1: I am worried about the security of my personal data when using X. SR2: I am concerned about the security of my financial data when using X.	Gerlach and Lutz (2021)
Financial Risk (FR)	FR1: I am afraid to lose money when using X. FR2: I am worried to be exposed to financial risks when using X.	Gerlach and Lutz (2021)
Operational Risk (OR)	OR1: I am concerned that internal process issues pose a risk. OR2: When using X I am afraid to suffer from losses due to mistakes by the supplier or its employees.	Gerlach and Lutz (2021)
Perceived Benefit (PB)	PB1: I see many advantages in using X. PB2: By using X I can achieve higher benefit.	Venkatesh, Thong, and Xu (2012), Gerlach and Lutz (2021)
Performance Expectancy (PE)	PE1: I believe that the usage of X brings improvements. PE2: I believe that the usage of X is efficient and useful.	Venkatesh, Thong, and Xu (2012), Gerlach and Lutz (2021)
Hedonic Motivation (HM)	HM1: I think that using X is fun and enjoyable. HM2: I think that using X is very entertaining.	Venkatesh, Thong, and Xu (2012)
Price Value (PV)	PV1: I believe that the usage of X is less cost intense. PV2: I do expect financial gains from the usage of X.	Venkatesh, Thong, and Xu (2012), Gerlach and Lutz (2021)
Effort Expectancy (EE)	EE1: I believe that my interaction with X is clear and understandable. EE2: I think that learning how to use it is easy for me.	Venkatesh, Thong, and Xu (2012)

Trust (T)	T1: I believe X is trustworthy and credible. (own wording) T2: I have confidence that X does its job. (own wording) T3: I think that the application of innovative technologies (AI, Machine Learning etc.) will improve my quality of life. T4: I think intelligent products are relatively mature and rarely make serious mistakes.	Cheng et al. (2019)
Social Influence (SI)	SI1. People who are important to me think that I should use X. SI2. People who influence my behavior think that I should use X.	Venkatesh, Thong, and Xu (2012)
Habit (HT)	HT1: The use of X has (could) become a habit for me. HT2: I am (could become) addicted to using X.	Venkatesh, Thong, and Xu (2012)
Construct	5-point Likert scales, unless otherwise noted, with 1 = strongly disagree and 5 = strongly agree	

Appendix A5: English Version of Survey

Introduction Neobank: **Study on the intention to use online trading services of neobanks** Dear Participants, The following survey is part of my Master's thesis at Nova School of Business and Economics, as part of the Innovation, Digital Business and Technology Strategy Field Lab. The focus is on the usage intention of digital financial products in the field of online investing. The aim of the study is to identify the decisive factors for the acceptance of online trading services provided by neobanks. The survey is anonymous and will take about 6 minutes to complete. Please read the instructions carefully and answer the questions honestly. You can only complete the survey once. Thank you for your participation! Jana
Introduction Neobroker: **Study on the intention to use neobrokers** Dear Participants, The following survey is part of my Master's thesis at Nova School of Business and Economics, as part of the Innovation, Digital Business and Technology Strategy Field Lab. The focus is on the usage intention of digital financial products in the field of online investing. The aim of the study is to identify the decisive factors for the acceptance of neobrokers. The survey is anonymous and will take about 6 minutes to complete. Please read the instructions carefully and answer the questions honestly. You can only complete the survey once. Thank you for your participation!

Carmen

Introduction Robo-advisor:

Study on the intention to use robo-advisors

Dear Participants,

The following survey is part of my Master's thesis at Nova School of Business and Economics, as part of the Innovation, Digital Business and Technology Strategy Field Lab. The focus is on the usage intention of digital financial products in the field of online investing. The aim of the study is to identify the decisive factors for the acceptance of robo-advisors.

The survey is anonymous and will take about 6 minutes to complete.

Please read the instructions carefully and answer the questions honestly. You can only complete the survey once.

Thank you for your participation!

Leonie

Declaration of consent: In order for you to participate in this study, we need your consent to data processing pursuant to Art. 89 (1) DSGVO.	Yes, I agree; No, I do not agree

Definition Neobank:

To complete the survey, it is important that you are familiar with the following digital investing terms.

Online Trading:

Online trading is the buying and selling of financial products over the Internet on online trading platforms. This includes trading bonds, stocks, futures, international currencies, cryptocurrencies, and other financial instruments.[1]

Neobank:

Neobanks are newly established banks that are not part of large conventional banks.[2] By eliminating physical branches and moving all activities to the Internet, neobanks often save costs, thereby lowering fees.[3]

Neobanks often start with a manageable service package like that of a "normal" bank - the differences lie in the consistent online handling of bank account and cards, as well as in the fee models, which range between very cheap and free. This basic offering is usually extended and expanded very quickly, with offers and functions that can include savings, investments, loans, currencies, cryptocurrencies, insurance and more.[4]

Online trading is only offered by a few neobanks so far (e.g. Revolut), but others have already announced it (e.g. N26).

The most popular neobanks include Revolut, Chime, Nubank, N26 and Monzo.[2]

Neobanks do not include conventional banks that offer banking services or online banks founded by traditional banks, such as comdirect or DKB.

[1] Market Business News. Online Trading - Definition and Meaning. Last accessed 15.11.2021

[2] Statista. Neobanking Market Definition. Last accessed 15.11.2021

[3] The balance. What Is a Neobank? Last accessed 15.11.2021

[4] MoneyToday.ch. Digitalbank. Last accessed 15.11.2021

Definition Neobroker:

To complete the survey, it is important that you are familiar with the following digital investing terms.

Online Trading:

Online trading is the buying and selling of financial products over the Internet on online trading platforms. Online trading can include trading bonds, stocks, futures, international currencies, cryptocurrencies, and other financial instruments.[1]

Neobroker:

Neobrokers are digital financial firms that typically position themselves as online brokers or retail investment platforms. These companies are not part of traditional financial companies such as traditional banks but may partner with them to provide more efficient and secure deposits and transfers. Since it is exclusively an online service, there are no physical branches offering direct customer advice and services. In addition, customers must complete a digital onboarding process at the outset. Services are used via mobile apps or the desktop website, ensuring ease of use. Neobrokers may charge for their services, but some offer them for free. As a result, they make it easier to enter the stock market, but in return they have a much smaller offering and limited services.[2]

Popular neobrokers in Germany include TradeRepublic, Scalable Capital, and Bitpanda.

[1]Market Business News. Online Trading - Definition and Meaning. Last accessed 11/15/2021.
[2]Statista. Neobrokers. Last accessed 11/15/2021

Definition Robo-advisor:

To complete the survey, it is important that you are familiar with the following digital investing terms.

Online Trading:

Online trading is the buying and selling of financial products over the Internet on online trading platforms. This includes trading bonds, stocks, futures, international currencies, cryptocurrencies, and other financial instruments.[1]

Robo-advisor:

Robo-advisors combine digital investment advice with automated asset management. While classic investment advice and traditional asset management are part of the services offered by banks, insurance companies and asset managers in Germany, robo-advisory or robo-advice offers this modern form of investment online - for example for ETF portfolios.[2] Robo-advisors use algorithms to put together standardized yet individual portfolios for investors. The user of a robo-advisor answers questions depending on his risk tolerance, his desired investment period, and his investment goal. The robo-advisor then submits a proposal for an investment portfolio tailored to the customer based on an asset allocation.[3] The five largest robo-advisors in Germany include Scalable Capital, cominvest, LIQID, quirion and Truevest.[4]

[1]Market Business News. Online Trading - Definition and Meaning. Last accessed 15.11.2021
[2]Growney. Was ist ein Robo-Advisor? Last accessed 15.11.2021
[3]Gabler Banklexikon. Robo-Advisor. Last accessed 15.11.2021
[4]extraETF. So groß ist der Robo-Advisor-Markt in Deutschland. Last accessed 15.11.2021

Q1	Did you ever make use of X?	Yes; No; Prefer not to say
Q2	I intend to use (continue the usage of) X in the future.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.1	I believe that the usage of X brings improvements.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.2	I believe that the usage of X is efficient and useful.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.3	I believe that my interaction with X is clear and understandable.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.4	I think that learning how to use X is easy for me.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.5	I believe that the usage of X is less cost intense.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.6	I do expect financial gains from the usage of X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.7	I think that using X is fun and enjoyable.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.8	I think that using X is very entertaining.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.9	I see many advantages in using X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q3.10	By using X I can achieve higher benefit.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.1	I don't feel comfortable with using technology for investment decisions.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.2	I see many concerns in using advanced technologies.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.3	I am worried about the security of my personal data when using X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.4	I am concerned about the security of my financial data when using X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.5	I am afraid to lose money when using X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree

Q4.6	I am worried to be exposed to financial risks when using X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.7	I am concerned that internal process issues pose a risk.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.8	When using X, I am afraid to suffer from losses due to mistakes by the supplier or its employees.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.9	I see many disadvantages in using X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q4.10	By using X I am exposed to many risks.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q5.1	I believe X is trustworthy and credible.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q5.2	I have confidence that X does its job.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q5.3	I think that the application of innovative technologies (AI, Machine Learning etc.) will improve my quality of life.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q5.4	I think intelligent products are relatively mature and rarely make serious mistakes.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q6.1	People who are important to me think that I should use X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q6.2	People who influence my behavior think that I should use X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q6.3	The use of X has (could) become a habit for me.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q6.4	I am (could become) addicted to using X.	(1) Strongly disagree; (2) Disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree
Q7	In general, how would you describe your own risk attitude?	(1) Not at all willing to take risks; (2) Not willing to take risks; (3) Neutral; (4) Willing to take risks; (5) Very willing to take risks
Q8.1	In general, how would you rate your own knowledge and experience about digitization?	(1) Very Low; (2) Low; (3) Neutral; (4) High; (5) Very High
Q8.2	In general, how would you rate your own knowledge and experience about investing?	(1) Very Low; (2) Low; (3) Neutral; (4) High; (5) Very High

Q9.1	In general, how important is personal interaction for you when using financial products and services?	(1) Not at all important; (2) Not important; (3) Neutral; (4) Important; (5) Very important
Q9.2	In general, how important is it to you that a single financial services provider offers the full range of financial products and services you demand?	(1) Not at all important; (2) Not important; (3) Neutral; (4) Important; (5) Very important
Q10	Would it make a difference to you if an established financial institution or new entrant/startup offers X?	Yes; No; No opinion
Individual Questions Neobank:		
QA1	Have you heard of any of the following neobanks before this survey? bunq, Chime, Curve, Insha, Monese, Monzo, Nuri, N26, Paysend, Qonto, Revolut, Tomorrow, Vivid, Wise, Yuh	Yes; No; None of the above, but: [Text]
QA2	Which of the following neobanks do you already have an account with?	bunq, Chime, Curve, Insha, Monese, Monzo, Nuri, N26, Paysend, Qonto, Revolut, Tomorrow, Vivid, Wise, Yuh, I don't have an account, None of the above, but: [Text]
QA3	Do you use this account as your main account (for salary payments, transactions, etc.)?	Yes; No
QA4	Have you already used the online trading function of your neobank or do you plan to do so in the future?	Yes; No
QA5	Why haven't you thought of opening an account before?	I am satisfied with my current bank., It is too much of a hassle to switch to another bank., I did not know that neobanks existed or what advantages they offer., I do not have confidence in neobanks., Other: [Text]
QA6	What would make you open an account with a neobank or use your existing neobank account as your main account?	Better customer experience (e.g. through app design, user interface and experience), Better customer service, A welcome offer, Multiple services bundled together (e.g. travel insurance, online trading, credit card, etc.), Nothing would make me want to, Other: [Text]
Individual Questions Neobroker:		
QB1	Have you heard of any of the following neobrokers before taking this survey? TradeRepublic, Scalable Capital, Smartbroker, Bitpanda, justTRADE, finanzen.net zero Selected Choice	Yes; No; None of the above, but: [Text]

QB2	Which of the following neobrokers do you use / have you ever used? – (Multiple answers possible)	TradeRepublic; Scalable Capital; Bitpanda; Smartbroker; justTRADE; finanzen.net zero; none of the above mentioned
QB3	Do you think neobrokers are riskier than traditional wealth management / wealth advisory services?	Yes; No; No opinion
Individual Questions Robo-advisor:		
QC1	Have you ever received (professional) investment advice / wealth management advice?	Yes; No; Prefer not to say
QC2	Have you heard of any of the following robo-advisors before taking this survey? scalable Capital, quirion, LIQID, ginmon, VisualVest, Birdee, indexa capital, ETFmatic, AutoInvest, moneyfarm, WHITEBOX, sarwa, StashAway, growney, easyfolio	Yes; No; None of the above, but: [Text]
QC3	Have you ever thought about using a robo-advisor?	Yes; No; No opinion
QC4	Which of the following robo-advisors do you use / have you ever used?	scalable Capital, quirion, LIQID, ginmon, VisualVest, Birdee, indexa capital, ETFmatic, AutoInvest, moneyfarm, WHITEBOX, sarwa, StashAway, growney, easyfolio; None of the above, but: [Text]
QC5	Would you prefer a robo-advisor if this service is provided by a provider with whom you already use other services (e.g. current account, online banking, etc.)?	Yes; No; No opinion
QC6	Do you think robo-advisors are riskier than traditional wealth management / wealth advisory services?	Yes; No; No opinion
Demographics and Others:		
Q11	How would you rate your monthly disposable income (in EUR)?	0-1,000€; 1,001-3,000€; 3,001-5,000€; 5,001-10,000€; 10,001€+; Prefer not to say
Q12	Do you regularly put money aside / are you saving?	Yes; No; Prefer not to say
Q13	Are you currently invested in:	Stocks, Commodities, Bonds, Crypto currencies, Fonds (incl. ETFs), Others; None; Prefer not to say
Q14	What is your gender?	Female; Male; Diverse; Prefer not to say
Q15	Which is your year of birth?	[Text]
Q16	What is your nationality?	German; Non-German

Q17	What is your highest educational achievement?	No school-leaving education; Primary school/Lower secondary school; Secondary school; Higher education entrance qualification; Apprenticeship; University degree; Other
Q18	What describes your current occupational situation best?	Employed; Unemployed; Unemployable; Student; Other

Appendix A6: Distributed German Version of Survey

Introduction Neobank:
Studie über die Nutzungsabsicht von Online Trading Services von Neobanken
Sehr geehrte Teilnehmer*innen,
die folgende Umfrage ist Teil meiner Masterarbeit an der Nova School of Business and Economics, im Rahmen des Field Labs Innovation, Digital Business and Technology Strategy.
Der Fokus liegt auf der Nutzungsabsicht von digitalen Finanzprodukten im Bereich Online-Investment. Ziel der Studie ist es, die entscheidenden Faktoren für die Akzeptanz von **Online Trading Services von Neobanken** zu untersuchen.
Die Umfrage ist anonym und dauert etwa 6 Minuten.
Bitte lesen Sie die Anweisungen sorgfältig durch und beantworten Sie die Fragen ehrlich.
Sie können die Umfrage nur einmal ausfüllen.
Vielen Dank für Ihre Teilnahme!
Jana

Introduction Neobroker:
Studie über die Nutzungsabsicht von Neobrokern
Sehr geehrte Teilnehmer*innen,
die folgende Umfrage ist Teil unserer Masterarbeit an der Nova School of Business and Economics, im Rahmen des Field Labs "Innovation, Digital Business and Technology Strategy".
Unser Fokus liegt auf der Nutzungsabsicht von digitalen Finanzprodukten im Bereich Online-Investment. Ziel der Studie ist es, die entscheidenden Faktoren für die Akzeptanz von Neobrokern zu untersuchen.
Die Umfrage ist anonym und dauert etwa 6 Minuten.
Bitte lesen Sie die Anweisungen sorgfältig durch und beantworten Sie die Fragen ehrlich.
Sie können die Umfrage nur einmal ausfüllen.
Vielen Dank für Ihre Teilnahme!
Carmen

Introduction Robo-advisor:
Studie über die Nutzungsabsicht von Robo-advisorn
Sehr geehrte Teilnehmer*innen,
die folgende Umfrage ist Teil meiner Masterarbeit an der Nova School of Business and Economics, im Rahmen des Field Labs Innovation, Digital Business and Technology Strategy.
Der Fokus liegt auf der Nutzungsabsicht von digitalen Finanzprodukten im Bereich Online-Investment. Ziel der Studie ist es, die entscheidenden Faktoren für die Akzeptanz von Robo-advisorn.
Die Umfrage ist anonym und dauert etwa 6 Minuten.
Bitte lesen Sie die Anweisungen sorgfältig durch und beantworten Sie die Fragen ehrlich.
Sie können die Umfrage nur einmal ausfüllen.

Vielen Dank für Ihre Teilnahme! Leonie	
Einverständniserklärung: Damit Sie an dieser Studie teilnehmen können, benötigen wir Ihr Einverständnis zur Datenverarbeitung gem. Art. 89 Abs. 1 DSGVO.	Ja, ich bin einverstanden; Nein, bin nicht einverstanden

Definition Neobank:

Für das Ausfüllen der Umfrage ist es wichtig, dass Sie mit folgenden Begrifflichkeiten im Bereich digitales Investieren vertraut sind.

Online Trading:

Unter Online-Handel versteht man den Kauf und Verkauf von Finanzprodukten über das Internet auf Online-Handelsplattform. Dies umfasst den Handel mit Anleihen, Aktien, Futures, internationalen Währungen, Kryptowährungen und anderen Finanzinstrumenten.[1]

Neobank:

Neobanken sind neu gegründete Banken, die nicht zu den großen konventionellen Banken gehören.[2] Durch die Abschaffung der physischen Filialen und die Verlagerung aller Aktivitäten ins Internet sparen Neobanken oft Kosten (...), wodurch sie die Gebühren senken (...).[3]

Neue Digitalbanken starten oftmals mit einem überschaubaren Leistungspaket, das dem Angebot einer "normalen" Bank gleicht – die Unterschiede liegen im konsequenten Online Handling von Bankkonto und Karten, (...), sowie in den Gebührenmodellen, die zwischen sehr günstig und kostenlos angesiedelt sind. Dieses Basisangebot wird in der Regel sehr schnell erweitert und ausgebaut, mit Angeboten und Funktionen, die Sparen, Anlagen, Kredite, Währungen, Kryptowährungen, Versicherungen und mehr umfassen können.[4]

Online Trading wird bisher nur von wenigen Neobanken angeboten (bspw. Revolut), andere haben ihn jedoch auch schon angekündigt (bspw. N26).

Zu den beliebtesten Neobanken gehören Revolut, Chime, Nubank, N26 und Monzo.[2]

Nicht zu Neobanken zählen konventionelle Banken, die Bankdienstleistungen anbieten, oder Online Banken, die von traditionellen Banken gegründet wurden, wie die comdirect oder DKB.

[1] Market Business News. Online Trading - Definition and Meaning. Letzter Zugriff 15.11.2021
[2] Statista. Neobanking Market Definition. Letzter Zugriff 15.11.2021
[3] The balance. What Is a Neobank? Letzter Zugriff 15.11.2021
[4] MoneyToday.ch. Digitalbank. Letzter Zugriff 15.11.2021

Definition Neobroker:

Für das Ausfüllen der Umfrage ist es wichtig, dass Sie mit folgenden Begrifflichkeiten im Bereich digitales Investieren vertraut sind.

Online Trading:

Unter Online-Handel versteht man den Kauf und Verkauf von Finanzprodukten über das Internet auf Online-Handelsplattformen. Der Online-Handel kann den Handel mit Anleihen, Aktien, Futures, internationalen Währungen, Kryptowährungen und anderen Finanzinstrumenten umfassen.[1]

Neobroker:

Neobroker sind digitale Finanzunternehmen, die sich in der Regel als Online-Broker oder Anlageplattformen für Privatkunden positionieren. Diese Unternehmen gehören nicht zu traditionellen Finanzunternehmen wie konventionellen Banken, können jedoch mit diesen zusammenarbeiten, um effizientere und sicherere Einzahlungen und Überweisungen zu ermöglichen. Da es sich ausschließlich um eine Onlinedienst handelt, werden keine physischen Filialen mit direkter Kundenberatung und Dienstleistungen angeboten. Zudem muss der Kunde zu Beginn ein digitales Onboarding durchführen. Die Benutzung der Services erfolgt über mobile Apps oder die Desktop Website, wodurch eine einfache

Bedienung gewährleistet wird. Neobroker können für ihre Dienstleistungen Gebühren erheben, einige bieten sie aber auch kostenlos an. Sie ermöglichen dadurch einen leichteren Einstieg in den Aktienmarkt, haben jedoch dafür eine deutlich geringere Auswahl und eingeschränkte Services.[2]
Zu den beliebten Neobrokern in Deutschland gehören TradeRepublic, Scalable Capital und Bitpanda.

[1]Market Business News. Online Trading - Definition and Meaning. Letzter Zugriff 15.11.2021
[2]Statista. Neobrokers. Letzter Zugriff 15.11.2021

Definition Robo-advisor:
Für das Ausfüllen der Umfrage ist es wichtig, dass Sie mit folgenden Begrifflichkeiten im Bereich digitales Investieren vertraut sind.

Online Trading:
Unter Online-Handel versteht man den Kauf und Verkauf von Finanzprodukten über das Internet auf Online-Handelsplattform. Dies umfasst den Handel mit Anleihen, Aktien, Futures, internationalen Währungen, Kryptowährungen und anderen Finanzinstrumenten.[1]

Robo-advisor:
Robo-advisor vereinen digitale Anlageberatung mit automatisierter Vermögensverwaltung. Während klassische Anlageberatung und traditionelle Vermögensverwaltung in Deutschland zu den Dienstleistungen von Banken, Versicherungen und Vermögensverwaltern gehören, bietet Robo-advisory bzw. Robo-advice online diese moderne Form der Geldanlage - zum Beispiel für ETF Portfolios.[2]
Robo-advisor stellen mit Hilfe von Algorithmen standardisierte, aber dennoch individuelle Portfolien für Anleger zusammen. Der Nutzer eines Robo-advisors beantwortet Fragen in Abhängigkeit von seiner Risikobereitschaft, seinem gewünschten Anlagezeitraum sowie seinem Anlageziel. Im Anschluss daran wird seitens des Robo-advisors basierend auf einer Asset Allocation ein auf den Kunden zugeschnittener Vorschlag für ein Anlageportfolio unterbreitet.[3]
Zu den fünf größten Robo-advisor in Deutschland gehören Scalable Capital, cominvest, LIQID, quirion und Truevest.[4]

[1]Market Business News. Online Trading - Definition and Meaning. Letzter Zugriff 15.11.2021
[2]Growney. Was ist ein Robo-Advisor? Letzter Zugriff 15.11.2021
[3]Gabler Banklexikon. Robo-Advisor. Letzter Zugriff 15.11.2021
[4]extraETF. So groß ist der Robo-Advisor-Markt in Deutschland. Letzter Zugriff 15.11.2021

Q1	Haben Sie schon einmal X verwendet?	Ja, Nein, Keine Angabe
Q2	Ich ziehe in Betracht X in Zukunft zu verwenden (weiter zu verwenden).	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.1	Ich glaube, dass durch die Verwendung von X Verbesserungen für mich entstehen.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.2	Ich glaube, dass die Verwendung von X effizient und nützlich ist.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.3	Ich glaube, dass die Interaktion mit X für mich klar und verständlich ist.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.4	Ich denke, dass es mir leicht fällt, den Umgang mit X zu lernen.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu

Q3.5	Ich glaube, dass die Verwendung von X kostengünstiger ist.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.6	Ich verspreche mir finanzielle Vorteile von der Verwendung von X.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.7	Ich denke, dass die Verwendung von X Spaß macht und vergnügsam ist.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.8	Ich denke, dass die Verwendung von X sehr unterhaltsam ist.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.9	Ich sehe viele Vorteile in der Verwendung von X.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q3.10	Durch den Einsatz von X kann ich einen höheren Nutzen erzielen.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.1	Ich fühle mich nicht wohl dabei, Technologien für Investitionsentscheidungen zu nutzen.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.2	Ich sehe viele Bedenken bei der Nutzung fortgeschrittener Technologien.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.3	Ich mache mir Sorgen um die Sicherheit meiner persönlichen Daten bei der Nutzung von X.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.4	Ich mache mir Sorgen um die Sicherheit meiner Finanzdaten, wenn ich X verwende.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.5	Ich habe Angst, Geld zu verlieren, wenn ich X verwende.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.6	Ich habe Angst, bei der Nutzung von X finanziellen Risiken ausgesetzt zu sein.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.7	Ich bin besorgt, dass interne Abläufe ein Risiko darstellen.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.8	Wenn ich X verwende, habe ich Angst, durch Fehler der Partnerunternehmen von X oder seiner Mitarbeiter Verluste zu erleiden.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.9	Ich sehe viele Nachteile bei der Verwendung von X.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q4.10	Wenn ich X verwende, bin ich vielen Risiken ausgesetzt.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu

Q5.1	Ich halte X für vertrauenswürdig und glaubwürdig.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q5.2	Ich habe Vertrauen, dass X seine Aufgabe erfüllen.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q5.3	Ich glaube, dass die Anwendung innovativer Technologien (KI, maschinelles Lernen usw.) meine Lebensqualität verbessern wird.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q5.4	Ich denke, intelligente Produkte sind relativ ausgereift und machen selten schwerwiegende Fehler.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q6.1	Menschen, die mir wichtig sind, meinen, dass ich X verwenden sollte.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q6.2	Menschen, die mein Verhalten beeinflussen, sind der Meinung, dass ich X benutzen sollte.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q6.3	Die Verwendung von X ist für mich zur Gewohnheit geworden (könnte für mich zur Gewohnheit werden).	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q6.4	Ich bin süchtig (könnte süchtig werden) nach der Verwendung von X.	(1) Stimme überhaupt nicht zu; (2) Stimme nicht zu; (3) Neutral; (4) Stimme zu; (5) Stimme voll und ganz zu
Q7	Wie schätzen Sie Ihre grundsätzliche Risikobereitschaft ein?	(1) Gar nicht risikobereit; (2) Nicht risikobereit; (3) Neutral; (4) Risikobereit; (5) Sehr risikobereit
Q8.1	Wie schätzen Sie Ihr Wissen / Ihre Erfahrung in Bezug auf Digitalisierung ein?	(1) Sehr niedrig; (2) Niedrig; (3) Neutral; (4) Hoch; (5) Sehr hoch
Q8.2	Wie schätzen Sie Ihr Wissen / Ihre Erfahrung in Bezug auf Investitionen ein?	(1) Sehr niedrig; (2) Niedrig; (3) Neutral; (4) Hoch; (5) Sehr hoch
Q9.1	Wie wichtig ist für Sie allgemein der persönliche Kontakt bei der Nutzung von Finanzprodukten und -dienstleistungen?	(1) Überhaupt nicht wichtig; (2) Nicht wichtig; (3) Neutral; (4) Wichtig; (5) Sehr wichtig
Q9.2	Wie wichtig ist es Ihnen im Allgemeinen, dass ein einziger Finanzdienstleister die gesamte Palette der von Ihnen nachgefragten Finanzprodukte und -dienstleistungen anbietet?	(1) Überhaupt nicht wichtig; (2) Nicht wichtig; (3) Neutral; (4) Wichtig; (5) Sehr wichtig
Q10	Würde es für Sie einen Unterschied machen, ob ein etabliertes Finanzinstitut oder ein neuer Marktteilnehmer / ein Startup X anbietet?	Ja; Nein; Keine Meinung
Individual Questions Neobank:		

QA1	Haben Sie schon einmal vor dieser Umfrage von einer der folgenden Neobanks gehört? bunq, Chime, Curve, Insha, Monese, Monzo, Nuri, N26, Paysend, Qonto, Revolut, Tomorrow, Vivid, Wise, Yuh	Ja; Nein; Keine der oben genannten, sondern: [Text]
QA2	Bei welcher der folgenden Neobanken haben Sie bereits einen Account?	bunq, Chime, Curve, Insha, Monese, Monzo, Nuri, N26, Paysend, Qonto, Revolut, Tomorrow, Vivid, Wise, Yuh, Ich habe keinen Account, Keine der oben genannten, sondern: [Text]
QA3	Benutzen Sie dieses Konto als Ihr Hauptkonto (für Gehaltszahlungen, Transaktionen etc.)?	Ja,; Nein
QA4	Haben Sie bereits die Online Trading Funktion Ihrer Neobank benutzt oder planen Sie dies in Zukunft zu tun?	Ja; Nein
QA5	Warum haben Sie bisher nicht daran gedacht, einen Account zu eröffnen?	Ich bin mit meiner derzeitigen Bank zufrieden., Es ist zu aufwendig, zu einer anderen Bank zu wechseln., Ich wusste nicht, dass es Neobanken gibt oder welche Vorteile diese bieten., Ich habe kein Vertrauen in Neobanken., Sonstige: [Text]
QA6	Was würde Sie dazu bewegen, ein Konto bei einer Neobank zu eröffnen oder Ihr bereits bestehendes Neobank-Konto als Hauptkonto zu nutzen?	Besseres Kundenerlebnis (bspw. durch App-Design, Benutzeroberfläche und -erfahrung), Bessere Kundenbetreuung, Ein Willkommensangebot, Vielfältige Dienstleistungen gebündelt (z.B. Reiseversicherung, Online Trading, Kreditkarte usw.), Nichts würde mich dazu bewegen, Sonstige: [Text]
Individual Questions Neobroker:		
QB1	Haben Sie vor dieser Umfrage schon einmal von einem der folgenden Neobroker gehört? TradeRepublic, Scalable Capital, Smartbroker, Bitpanda, justTRADE, finanzen.net zero; Selected Choice	Ja; Nein; Keine der oben genannten, sondern: [Text]
QB2	Welche der folgenden Neobroker nutzen Sie / haben Sie schon einmal benutzt?	TradeRepublic; Scalable Capital; Bitpanda; Smartbroker; justTRADE; finanzen.net zero; none of the above-mentioned
QB3	Halten Sie Neobroker für riskanter als herkömmliche Vermögensverwaltungs- / Vermögensberatungsdienste?	Ja; Nein; Keine Meinung
Individual Questions Robo-advisor:		

QC1	Haben Sie jemals eine (professionelle) Investitionsberatung / Vermögensberatung erhalten?	Ja; Nein; Keine Angabe
QC2	Haben Sie vor dieser Umfrage schon einmal von einem der folgenden Robo-advisor gehört? scalable capital, quirion, LIQID, ginmon, VisualVest, Birdee, indexa capital, ETFmatic, AutoInvest, moneyfarm, WHITEBOX, sarwa, StashAway, growney, easyfolio	Ja; Nein; Keine der oben genannten, sondern: [Text]
QC3	Haben Sie schon einmal darüber nachgedacht eine Robo-advisor zu benutzen?	Ja; Nein; Keine Meinung
QC4	Welche der folgenden Robo-advisor nutzen Sie / haben Sie schon einmal benutzt?	scalable Capital, quirion, LIQID, ginmon, VisualVest, Birdee, indexa capital, ETFmatic, AutoInvest, moneyfarm, WHITEBOX, sarwa, StashAway, growney, easyfolio; Keine der oben genannten, sondern: [Text]
QC5	Würden Sie einen Robo-advisor bevorzugen, wenn dieser Dienst von einem Anbieter bereitgestellt wird, bei dem Sie bereits andere Dienstleistungen (z.B. Girokonto, Online Banking etc.) in Anspruch nehmen?	Ja; Nein; Keine Meinung
QC6	Halten Sie Robo-advisor für riskanter als herkömmliche Vermögensverwaltungs- / Vermögensberatungsdienste?	Ja; Nein; Keine Meinung
Demographics and Others:		
Q11	Wie schätzen Sie Ihr monatliches verfügbares Einkommen* ein (in EUR)? *bezeichnet den Teil des Einkommens, der Ihnen für privaten Konsum und private Ersparnis zur Verfügung steht	0-1.000€; 1.001-3.000€; 3.001-5.000€; 5.001-10.000€; 10.001€+; Keine Angabe
Q12	Legen Sie regelmäßig Geld zur Seite / Sparen Sie?	Ja; Nein; Keine Angabe
Q13	Derzeit investiere ich in die folgenden Titel:	Aktien, Rohstoffe, Kryptowährungen, Investmentfonds (inkl. ETFs), Sonstige; Keine Angabe
Q14	Welchem Geschlecht ordnen Sie sich zu?	Weiblich; Männlich; Divers; Keine Angabe
Q15	In welchem Jahr sind Sie geboren?	[Text]
Q16	Was ist Ihre Nationalität?	Deutsch, Nicht-Deutsch

Q17	Was ist Ihr höchster Bildungsabschluss?	Kein Schulabschluss; Grund-/Hauptschulabschluss; Realschule (Mittlere Reife); Gymnasium (Abitur); Abgeschlossene Ausbildung; Universität- oder Fachhochschulabschluss (z.B. Bachelor, Master, Doktor, Diplom, Staatsexamen etc.); Sonstige
Q18	Wie lässt sich Ihre derzeitige berufliche Situation am besten beschreiben?	Angestellt; Arbeitslos; Arbeitsunfähig; Student; Sonstige

7.2. Appendix B

Appendix B1: Demographics and Exploratives

Variable	Category	Abs.	Rel.
Gender	Female	50	50.00%
	Male	47	47.00%
	Non-binary	0	0.00%
	Prefer not to say	3	3.00%
	Total	100	
Age	18-22	8	8.00%
	23-30	66	66.00%
	31-40	2	2.00%
	41-50	0	0.00%
	51-60	17	17.00%
	60+	6	6.00%
	Prefer not to say	1	1.00%
	Total	100	
Education	No school-leaving education	0	0.00%
	Primary school/Lower secondary school	0	0.00%
	Secondary school	0	0.00%
	Higher education entrance qualification	13	13.00%
	Apprenticeship	4	4.00%
	University degree	80	80.00%
	Other	3	3.00%
	Total	100	
Employment	Employed	36	36.00%
	Unemployed	0	0.00%
	Unemployable	0	0.00%
	Student	56	56.00%
	Other	8	8.00%
	Total	100	
Income	0-1.000€	39	39.00%
	1.001-3.000€	40	40.00%
	3.001-5.000€	9	9.00%
	5.001-10.000€	3	3.00%
	10.001€+	1	1.00%
	Prefer not to say	8	8.00%
	Total	100	
Saving	Yes	81	81.00%
	No	16	16.00%
	No Opinion	3	3.00%
	Total	100	
	Stocks	51	51.00%

Current Investments (Multiple answers possible)	Commodities	7	7.00%
	Crypto currencies	23	23.00%
	Fonds (incl. ETFs)	57	57.00%
	Other	11	11.00%
	None	25	25.00%
	Prefer not to say	8	8.00%
	Total	100	
Risk Attitude	Mean:	3.28	
	Median:	3	
	Standard Deviation:	0.95	
Investment Knowledge	Mean:	2.95	
	Median:	3	
	Standard Deviation:	1.1	
Digitization Knowledge	Mean:	3.69	
	Median:	4	
	Standard Deviation:	0.81	
Personal Contact	Mean:	2.78	
	Median:	3	
	Standard Deviation:	1.19	
One single platform	Mean:	2.99	
	Median:	3	
	Standard Deviation:	1.06	
Startup vs. Incumbent	Yes	61	61.00%
	No	25	25.00%
	No Opinion	14	14.00%
	Total	100	
Have you heard of any of the following neobanks before this survey? bunq, Chime, Curve, Insha, Monese, Monzo, Nuri, N26, Paysend, Qonto, Revolut, Tomorrow, Vivid, Wise, Yuh	Yes	68	68.00%
	No	32	32.00%
	None of the above, but:	0	0.00%
	Total	100	
Which of the following neobanks do you already have an account with? (Multiple answers possible)	bunq	0	0.00%
	Chime	0	0.00%
	Curve	1	1.00%
	Insha	0	0.00%
	Monese	1	1.00%
	Monzo	2	2.00%
	Nuri	1	1.00%
	N26	25	25.00%
	Paysend	0	0.00%
	Qonto	0	0.00%
	Revolut	9	9.00%
	Tomorrow	2	2.00%
	Vivid	1	1.00%

	Wise	1	1.00%
	Yuh	0	0.00%
	I don't have an account	64	64.00%
	None of the above, but:	5	5.00%
	Total	100	
Do you use this account as your main account (for salary payments, transactions, etc.)?	Yes	9	25.00%
	No	27	75.00%
	Total	36	
Have you already used the online trading function of your neobank, or do you plan to do so in the future?	Yes	18	50.00%
	No	18	50.00%
	Total	36	
Why haven't you thought of opening an account before? (Multiple answers possible)	I am satisfied with my current bank.	45	56.96%
	It is too much of a hassle to switch to another bank.	10	12.66%
	I did not know that neobanks existed or what advantages they offer.	12	15.19%
	I do not have confidence in neobanks.	10	12.66%
	Other:	2	2.53%
	Total	79	
What would make you open an account with neobank or use your existing neobank account as your main account? (Multiple answers possible)	Better customer experience (e.g. through app design, user interface and experience).	33	33.00%
	Better customer service	19	19.00%
	A welcome offer	25	25.00%
	Multiple services bundled together (e.g. travel insurance, online trading, credit card, etc.)	43	43.00%
	Nothing would make me want to	24	24.00%
	Other:	9	9.00%
	Total	100	

Appendix B2: Reliability Analysis Overall Model

Variable	Mean (M)	Standard Deviation (SD)	Cronbach's Alpha	No. of Items
TR	2.62	1.00	0.57	2
SR	3.04	1.12	0.93	2
FR	3.03	0.91	0.80	2
OR	2.86	0.85	0.79	2
PR	2.61	0.84	0.81	2
PE	3.57	0.92	0.80	2
EE	3.68	0.97	0.80	2
PV	3.79	0.87	0.75	2
HM	2.93	1.04	0.91	2
PB	3.50	0.92	0.86	2
T	3.37	0.72	0.80	4
SI	2.68	0.91	0.91	2
HT	2.31	0.92	0.41	2
BI	3.45	1.28	n/a	1
E	0.26	0.44	n/a	1

Appendix B3: Regression Model 1

Regression Statistics	Multiple R	R Square	Adjusted R Square	Standard Error	Observations
	0.795	0.632	0.599	0.806	100

ANOVA	df	SS	MS	F	Significance F
Regression	8	101.571	12.696	19.523	0.000
Residual	91	59.179	0.650		
Total	99	160.750			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	-0.177	0.875	-0.203	0.840	-1.916	1.561	-1.916	1.561
PR	-0.149	0.148	-1.008	0.316	-0.442	0.144	-0.442	0.144
PB	0.364	0.151	2.417	0.018	0.065	0.664	0.065	0.664
T	0.466	0.166	2.807	0.006	0.136	0.797	0.136	0.797
E	0.955	1.312	0.728	0.468	-1.650	3.561	-1.650	3.561
E_x_PR	0.121	0.266	0.456	0.650	-0.406	0.648	-0.406	0.648
E_x_PB	-0.184	0.253	-0.727	0.469	-0.687	0.319	-0.687	0.319
SI	0.243	0.110	2.210	0.030	0.025	0.461	0.025	0.461
HT	0.175	0.117	1.502	0.137	-0.057	0.407	-0.057	0.407

Appendix B4: Regression Model 2.1

Regression Statistics	Multiple R	R Square	Adjusted R Square	Standard Error	Observations
	0.765	0.585	0.563	0.557	100

ANOVA	df	SS	MS	F	Significance F
Regression	5	41.030	8.206	26.491	0.000
Residual	94	29.118	0.310		
Total	99	70.148			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	2.453	0.501	4.894	0.000	1.458	3.448	1.458	3.448
TR	-0.103	0.079	-1.307	0.194	-0.260	0.054	-0.260	0.054
SR	0.007	0.069	0.095	0.925	-0.131	0.144	-0.131	0.144
FR	0.338	0.086	3.942	0.000	0.168	0.508	0.168	0.508
OR	0.288	0.095	3.042	0.003	0.100	0.476	0.100	0.476
T	-0.429	0.095	-4.520	0.000	-0.617	-0.240	-0.617	-0.240

Appendix B5: Regression Model 2.2

Regression Statistics	Multiple R	R Square	Adjusted R Square	Standard Error	Observations
	0.843	0.711	0.695	0.504	100

ANOVA	df	SS	MS	F	Significance F
Regression	5	58.621	11.724	46.154	0.000
Residual	94	23.879	0.254		
Total	99	82.500			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	-0.137	0.281	-0.489	0.626	-0.695	0.420	-0.695	0.420
PE	0.561	0.089	6.286	0.000	0.384	0.738	0.384	0.738
EE	0.083	0.068	1.224	0.224	-0.052	0.218	-0.052	0.218
PV	0.219	0.069	3.175	0.002	0.082	0.357	0.082	0.357
HM	0.037	0.066	0.563	0.575	-0.094	0.168	-0.094	0.168
T	0.116	0.101	1.150	0.253	-0.085	0.317	-0.085	0.317

Appendix B6: Regression Model 3

	Multiple R	R Square	Adjusted R Square	Standard Error	Observations
Regression Statistics	0.752	0.566	0.552	0.853	100

ANOVA	df	SS	MS	F	Significance F
Regression	3	90.914	30.305	41.658	0.000
Residual	96	69.836	0.727		
Total	99	160.750			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	-0.949	0.423	-2.244	0.027	-1.788	-0.109	-1.788	-0.109
T	0.794	0.134	5.907	0.000	0.527	1.060	0.527	1.060
SI	0.348	0.110	3.177	0.002	0.131	0.566	0.131	0.566
HT	0.346	0.112	3.102	0.003	0.125	0.567	0.125	0.567

Appendix B7: Sobel-Test

Sobel Test	P-value	Indirect Effect	Total Effect	Proportion of Indirect Effect
PR	0.325	0.064	0.573	11.14%
PB	0.299	0.042		7.40%

Appendix B8: Results of Hypotheses Testing

Hypotheses	Casual Path	Path Coefficient	t-Values	p-Values	Significance
H1	PR → BI	-0.149	-1.008	0.316	No
H1.1	TR → PR	-0.103	-1.307	0.194	No
H1.2	SR → PR	0.007	0.095	0.925	No
H1.3	FR → PR	0.338	3.942	0.000	Yes
H1.4	OR → PR	0.288	3.042	0.003	Yes
H2	PB → BI	0.364	2.417	0.018	Yes
H2.1	PE → PB	0.561	6.286	0.000	Yes
H2.2	HM → PB	0.037	1.224	0.224	No
H2.3	PV → PB	0.219	3.175	0.002	Yes
H2.4	EE → PB	0.083	0.563	0.575	No
H3.1	T → PR	-0.429	-4.520	0.000	Yes
H3.2	T → PB	0.116	1.150	0.253	No
H4	T → BI	0.466	2.807	0.006	Yes
H5.1	Mediator Effect	0.064	0.983	0.325	No
H5.2	Mediator Effect	0.042	1.039	0.299	No
H6.1	Moderator Effect	0.121	0.456	0.650	No
H6.2	Moderator Effect	-0.184	-0.727	0.469	No
H7	SI → BI	0.243	2.210	0.030	Yes
H8	HT → BI	0.175	1.502	0.137	No

Appendix B9: t-Test for Gender

	Gender		t	p-value	t Critical
	Female	Male			
Future intention to use online trading services provided by neobanks	3.02 (1.74)	3.94 (1.98)	3.72	0.000	1.66

Appendix B10: t-Test for Age

	Age		t	p-value	t Critical
	18-40	41+			
Future intention to use online trading services provided by neobanks	3.86 (1.96)	2.13 (1.46)	6.87	0.000	1.66

Appendix B11: t-Test for Digitization Knowledge

	Digitization Knowledge		t	p-value	t Critical
	High	Low			
Future intention to use online trading services provided by neobanks	3.78 (1.94)	2.89 (1.70)	3.55	0.000	1.66