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Management of personal finance in the digital era: the case of Ukraine before and during the war

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ABSTRACT

Management of personal finance is a relatively new research topic. It has become increasingly significant and widely discussed, especially as digitalization is fundamentally reshaping every aspect of people's daily lives, including consumption of financial products and services, transforming the financial behaviour of individuals, as well as their social surroundings. As the use of digitalization can have both positive and negative effects on individuals' finance, there is a need for more research to define the actual impacts of digitalization on personal finance. The empirical context of the study is Ukraine, which has been increasing its digital development for the last decade – something that has proved to be particularly crucial for the country's resilience during the war. Thus, this thesis explores *how digitalization influences management of personal finance in the context of a transitional economy.*

The thesis comprises a literature review and three empirical studies that examine three aspects of the personal finance field: financial literacy (1), trust (2) and crowd-based accountability (3). Each empirical study focuses on different aspects of personal finance management, which are synthesised in this PhD thesis by using Bandura's (1986) social cognitive theory and its concept of "reciprocal causation".

The findings show that digitalization modifies the influence of cognitive and social environmental determinants on the financial behaviour of people. During increased digitalization, financial literacy, as the cognitive determinant, appears to play a less prominent role in personal financial behaviour, compared to social environmental determinants, i.e., trust based on social approval and crowd-based accountability. Therefore, the thesis makes several contributions. First, digitalization primarily impacts personal financial behaviour via social factors rather than cognitive factors. This raises a concern, as, when purchasing digital financial products, social ties are prioritized over financial knowledge. Additionally, in a country with a transitional economy, digitalization can become a "game changer" in improving personal financial behaviour

and, consequently, boosting the economy. As the case of Ukraine shows, digitalization can coordinate the financial behaviour of individuals, contributing to the enrichment of the country's finances during the war.

SAMMENDRAG

Håndtering av personlig økonomi er et relativt nytt tema innen forskning. Det har blitt stadig mer betydningsfullt og er bredt diskutert, særlig ettersom digitalisering så fundamentalt omformer alle aspekter ved menneskers daglige liv - som bruken av finansielle produkter og tjenester. Dette endrer individets økonomiske atferd, så vel som deres sosiale omgivelser. Ettersom bruken av digitalisering kan ha både positiv og negativ påvirkning på individuell økonomi, er det behov for mer forskning på området for å identifisere de faktiske innvirkningene av digitalisering på personlig økonomi. Den empiriske konteksten for studien er Ukraina, som har økt sin digitale utvikling det siste tiåret - noe som har vist seg å være spesielt avgjørende for landets motstandskraft under krigen. Derfor utforsker denne avhandlingen *hvordan digitalisering påvirker håndteringen av personlig økonomi i en overgangsøkonomisk kontekst*.

Avhandlingen består av en litteraturgjennomgang og tre empiriske studier som undersøker tre elementer av personlig økonomi: økonomisk kompetanse (1), tillit (2) og gruppebasert ansvarlighet (3). Hver av de empiriske studiene fokuserer på ulike aspekter ved håndtering av personlig økonomi, som blir syntetisert i denne doktorgradsavhandlingen gjennom Banduras (1986) sosiale kognitive teori og konseptet "resiprok kausalitet".

Forskningsresultatene viser at digitalisering endrer på innflytelsen som kognitive og sosio-miljømessige faktorer har på folks økonomiske atferd. Under økt digitalisering ser det ut til at økonomisk kompetanse, som den kognitive faktoren, spiller en mindre fremtredende rolle i personlig økonomisk atferd sammenlignet med sosio-miljømessige faktorer, som tillit basert på sosial godkjenning og gruppebasert ansvarlighet. Derfor bidrar avhandlingen med flere innsikter. For det første påvirker digitalisering i hovedsak personlig økonomisk atferd gjennom sosiale faktorer heller enn kognitive faktorer. Dette gir årsak til bekymring fordi sosiale bånd prioriteres over økonomisk kunnskap ved kjøp av digitale finansielle produkter. I tillegg kan

digitalisering i et land med en overgangsøkonomi bli en "game changer" for å forbedre personlig økonomisk atferd og dermed styrke økonomien. Som vist i Ukrainas tilfelle, kan digitalisering koordinere individets økonomiske atferd, som igjen kan bidra til berikelse av landets finanser i krigstid.

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1 INTRODUCTION

1.1 Background and motivation of the study

Personal finance is a relatively new discipline among scientists (Schuchardt et al., 2007). From the scientific point of view, the topic of personal finance is not less important than corporate finance or public finance, as the share of money owned by people significantly impacts the global economy and, therefore, could have some global financial consequences (Goyal et al., 2021). This was very well proved after the world financial crisis in 2007-2008, when the academic community understood the importance of studying the field of personal/household finance as a separate domain (Gomes et al., 2021). Since then, new studies have appeared which concentrate on such topics as how to manage personal/family budgets, how to build an optimal portfolio for individual investments, how to strengthen the level of financial literacy among people and, therefore, increase their standards of life, financial security and financial well-being (Suri & Purohit, 2017).

In addition, management of personal finance is an important topic for scholars, because people's financial decisions are shaped by – and simultaneously shape – the economic environment (Goyal et al., 2021). For example, in developed countries, 70-80% of GDP (gross domestic product) is allocated to personal consumption, while national budgets are consistently funded by the fees and taxes paid by citizens (Gedmintienė & Visockaitė, 2016). Moreover, financial markets today offer many possibilities for how to manage personal finance (Campbell, 2006; Gomes et al., 2021); at the same time, there are many challenges for people's financial decisions, such as increased costs of living, liberal credit and social security reforms (Xu & Zia, 2012), etc. This means that people's financial decisions depend on many macroeconomic factors and can change the general economic environment.

The first studies on subjects connected to management of personal finance were mostly based on traditional finance theories, which explained the rational behaviour of individuals when making financial decisions (Schuchardt et al., 2007). However, with the development of behaviour science, new approaches appeared in the field of personal finance (Altfest, 2004). Thus, in the majority of cases, modern research in personal finance focuses on behavioural theories (Goyal et al., 2021). Behavioural theories encompass elements tied to emotions, sentiments and individual traits that have the potential to alter a person's rational conduct (Zafirovski, 2013).

Recently, the impact of digitalization on people's financial decisions and behaviour has become more visible (Koskelainen et al., 2023). This is a significant aspect for financial operations as well, because digital transformations change the habits of consumers of financial products and services and, on one hand, bring simplicity into the life of users but, on the other hand, create some financial risks for them (Lo Prete, 2022). The biased role of digitalization brings new challenges for scholars in the field of personal finance and raises new important topics (Goyal et al., 2021). However, there are only a few studies on the effects of digitalization on personal finance management.

In addition, the topic of personal finance is widely discussed among researchers who mostly focus their studies on cases in developed countries (Campbell, 2006; Gomes et al., 2021), where people are confident in their future, have financial stability and opportunities to increase their family budgets (Joseph, 2013). In the US and European countries, for example, there are plenty of opportunities to manage personal finance (Campbell, 2006; Gomes et al., 2021). There are numbers of pension funds, insurance companies and investment companies; famous stock exchanges propose many offers for individual investors: from stocks and bonds to ETFs (exchange traded funds) and cryptocurrency exchanges (Ben-David et al., 2016).

However, the situation is different in those countries with economies in transition (Xu & Zia, 2012). Such countries as Ukraine, Moldova, Georgia, Armenia and most other post-Soviet countries struggle from some gaps in understanding the idea of personal finance and the initial importance of this topic (Nguyen, 2022). Moreover, countries with transition economies usually show a low level of financial literacy (OECD, 2020), a low level of trust in financial institutions (usually due to past negative experience) (Stix, 2013) and a low level of development of the financial sector (Nguyen, 2022).

Nevertheless, digitalization can significantly change the management of personal finance in countries with transition economies by opening new windows of opportunities for people in the financial markets (Aridi et al., 2021). For example, FinTech facilitates more convenient entry to both novel and established financial products and services. Moreover, it allows for the customization of these products, while simultaneously reducing their expenses (Koskelainen et al., 2023). However, digitalization brings not only opportunities for people to manage their personal finance but also some risks (Lo Prete, 2022). Due to digitalization, the financial world is now struggling from such negative consequences as, for example, cyber crimes or digital wars (Ch et al., 2020). This could bring negative consequences for people's financial well-being.

Therefore, without proper understanding of how and in what manner digitalization can impact the management of personal finance, people and financial institutions would not be able to respond to the negative consequences of digitalization in the financial market. In addition, the lack of previous research into personal finance in developing countries motivates new studies in this topic, because ignoring the transitional economy cannot contribute to more generalizable knowledge about personal finance.

1.2 Empirical context of the study

The empirical context of this thesis is Ukraine – the country with a transitional economy, which is now facing one of the biggest challenges in its history: war. The case of Ukraine is compelling for this dissertation, since the level of digitalization of financial products and services here is quite high (Aridi et al., 2021), even since the full-scale war started (Mamediieva & Moynihan, 2023; Tett, 2023), and the penetration of Internet usage among Ukrainians slightly increases from year to year (*Digital literacy of the population of Ukraine*, 2021). At the same time, since the start of the full-scale war, Ukraine has faced many challenges in all aspects, as well as in the financial market. From this perspective, digitalization of the financial market helped individuals as well as financial institutions to deal with many issues (Ionan, 2022; Mamediieva & Moynihan, 2023). In addition, the financial habits of Ukrainians have changed since the high demand for military and humanitarian aid. This has led to increased charity-giving behaviour among all the citizens of Ukraine. Since the full-scale war started, Ukrainians have donated 54.6 billion UAH (ca. 1.38 billion USD) (*New voice of Ukraine*, 2023). In its turn, such financial behaviour places new challenges on Ukrainian charity organizations to provide accountability for their actions.

1.3 Main research question and aims of the dissertation

The main aim of the PhD project is to look at the factors which influence the management of personal finance in a digital era in Ukraine. Thus, the **main research question** of the PhD thesis is formulated as follows:

How does digitalization influence management of personal finance in a transitional economy?

This dissertation centres on individuals who are actively engaged in digital activities, as digitalization plays a pivotal role in all of the studies included in the thesis. In this introductory chapter of the dissertation, the theoretical framework of social cognitive theory is used to explain the impact of environmental and cognitive determinants on people's financial behaviour and to define the role of digitalization in the triadic causation model (Bandura, 1986, 1999b). At the core of the theory are: a triadic causation model, which explains the relationship between cognitive, behavioural and environmental factors; and reciprocity, which shows that not only are people shaped by their environment, but there is also a reverse influence, which comes from people, who shape the environment in their turn (Bandura, 1986). This means that researchers from the personal finance field should also pay attention to the environment where people “manage personal finance”. The thesis focuses on digitalization, which changes our physical environment and therefore influences cognitive and social environmental factors, which, in turn, influence financial behaviour.

The aims of this dissertation are then: to distinguish factors which influence personal finance management in a digital environment and to examine the impact of these factors on financial behaviour.

In order to achieve these aims and to answer the main research question, the PhD thesis is divided into four papers – one literature review and three empirical papers – based on quantitative and qualitative research design.

The introductory chapter of the dissertation is organized as follows: first, the background, theoretical framework and context of the study are described, in order to understand the motivation and main relationships between all the studies. Further, section 4 describes how the research design of the PhD project was formed, mentioning the research problem, philosophical stance, research design, methodological choice, data collection methods, validity and reliability. Then, in section 5, the results of all the research papers included in the dissertation are summarized. This chapter ends with discussion and conclusion sections, which illustrate the main contribution of the thesis, present limitations, discuss implications for theory and practice and suggest possible directions for future research.

2 BACKGROUND AND THEORETICAL FRAMEWORK

2.1 Management of personal finance as a new research stream

According to Schuchardt et al. (2007), personal finance is a study which is connected to several areas and disciplines, such as family studies, economics, psychology and sociology. Since personal finance is the process of paying for or financing a life and a way of living, some studies of personal finance combine general principles of decision-making and management of financial resources of an individual or a household (Hira, 2009). In the thesis, personal financial planning, decisions and behaviour are part of personal finance management (or management of personal finance).

There are various definitions to characterize management of personal finance. According to Harvard Business School's[1] definition, "personal financial management" is used to describe methods of handling one's finances. In addition, it is also the process of assessing someone's financial condition in order to maximize the resources in both: current life and future planning (Chhillar & Arora, 2022). Good money management should increase financial well-being, whereas poor management of personal finance could lead to financial scarcity or financial distress and, as a consequence, financial bankruptcy (Agarwal et al., 2018).

In addition, management of personal finance is not only about the characteristics of individuals who make financial decisions, it is also about their relationship with financial institutions and the decisions and behaviour of these financial institutions (Campbell, 2006; Gomes et al., 2021; Tufano, 2009; Xiao & Tao, 2021).

Individuals' decisions regarding their finances are categorized into two main aspects: the money they earn (incomes) and the money they spend (outcomes). Earnings encompass various sources like wages, borrowings and loans, as well as

[1] Harvard Business School (n.d.) Alumni. New Economy Notables: Scott D. Cook.

interest gained from holdings like assets and investments (Campbell, 2006; Gomes et al., 2021). At the same time, individuals could allocate their funds to different categories, including spending (on consumption), taxes and fees. Furthermore, saving decisions include decisions connected to assets, equity and investments (Gomes et al., 2021). These financial resources can then be divided into additional classifications, such as retirement holdings, financial investments, property assets and insurance coverage.

According to Hira (2009), decision makers are central in the context of personal finance. They can be influenced by different factors in the external and internal environments. Among them, for example, are economic, demographic and social trends, as well as personal and family factors (Goyal et al., 2021).

The science interest in the theoretical, practical and economic aspects of how individuals manage their financial resources has led to the theoretical foundations dedicated to personal finance (Schuchardt et al., 2007). The most famous streams in finance theories which are applied in personal finance research are the traditional and behavioural schools of finance (Bloomfield, 2011).

The idea of the conventional/traditional approach to saving and consumption decisions claims that the individual who is highly financially informed will consume less than their income and increase their savings, in order to use them, when their income falls. However, traditional theories put some limitations on the research of personal finance. According to Becker (1962, p. 8), "…market rationality is consistent with household irrationality". Some important factors that influence financial behaviour, such as emotional and cognitive perception, are usually neglected in traditional finance theories (Goyal et al., 2021). But all individuals are heterogeneous and cannot behave identically. In contrast, behavioural theories include factors connected to emotions, feelings and other personal and behavioural characteristics, which could change the rational behaviour of the individual (Zafirovski, 2013).

Now the topic of personal finance in scientific communities is being updated in accordance with digitalization trends. Digital transformations are even more significant because many people today use digital financial products or services (Koskelainen et al., 2023). Thus, the current study aims to continue examining digitalization trends in the financial world by looking at the management of personal finance.

2.2 Impact of digitalization on management of personal finance

The influence of digital technologies on the economy can be characterized as the disruption of established economic processes, systems and sectors, alterations in consumer behaviour, and the transformation of business models and interactions (Koskelainen et al., 2023). Such changes in consumer behaviour and the behaviour of financial intermediaries have come into being over the past 15 years (Carbó-Valverde et al., 2020; Ernst&Young, 2019). For example, in 2022, around 66% of people in the European Union used online banking, compared with 53% in 2012 (Eurostat, 2022).

In addition, the financial landscape is undergoing constant transformation, due to emerging technological innovations, leading to changes in both the form of services (such as digital financial management services and digital currency) and the inherent nature of these services (including the loss of tangibility and the pervasive influence of technology) (Koskelainen et al., 2023). Consequently, these changes have a direct impact on consumers' consumption habits and their personal money management (Croux et al., 2020; Gomes et al., 2021; Liu et al., 2022).

Furthermore, due to digitalization, the typical portrait of a consumer of financial services changed. It could be assumed that, not always but in most cases, digitally active people are young (Wong, 2016). According to a recent poll provided by Blockchain Capital, 30% of people between the ages of 18 and 34 are likely to invest 1000 USD in bitcoins – a new FinTech investment tool – rather than in government bonds or stocks. Moreover, 42% of “millennials” are aware of bitcoin, compared with 15% of people over the age of 65 (Arnold, 2018). Furthermore, currently, the generation that was born with technology (Wong, 2016) is starting on its "financial path".

As a result, previous studies have already proved that digitalization and FinTech have a significant influence on management of personal finance (Chhillar & Arora, 2022; Goyal et al., 2021). Today, the field of personal finance is undergoing constant transformations, due also to advancements in digital tools and technologies such as artificial intelligence, intelligent analytics, automation, open banking and machine learning (Croux et al., 2020). The introduction of cutting-edge personal finance management tools on mobile applications and services by digital banks (neobanks) and financial startups enable customers to effortlessly monitor their financial well-being (Chhillar & Arora, 2022).

Moreover, digitalization creates new spaces for the financial behaviour of individuals. For example, use of the Internet can significantly influence people's personal and behavioural characteristics, including their financial preferences and decisions (Hoffmann et al., 2014). However, at the same time, digitalization creates new challenges for personal finance management, such as cybercrimes (Ch et al., 2020). For example, FinTech platforms often lack transparency from the users when it comes to making credit choices. As a result, banks are expected to establish their own criteria and adhere to lending regulations when engaging in FinTech lending activities (Croux et al., 2020).

In addition, social media is being actively used by people and organizations, as it is a part of digitalized society. Social media has a significant impact on almost every part of our lives today, especially on young people (Tong et al., 2023). It allows people to share their experience, ideas and information and to collaborate with each other (Kietzmann et al., 2011). Social media has varied the way people communicate and has changed such areas as politics, business, culture and education, as well as personal finance (Cao et al., 2020). This tendency is more visible among the young, as they are used to social media for gathering information and surf the Internet more frequently.

Social media provides a variety of opportunities for people to know more about personal finance, to learn how to manage it and how to deal with financial decisions (Hoffmann & Otteby, 2018).

From a theoretical perspective, behavioural learning theories more often study the changes that are experienced by individuals when they are influenced by technology innovation, therefore emphasizing their responses after they have acquired the technology (Ratten, 2012). Technology adoption is usually explained by two main learning perspectives – behavioural and cognitive (Bandura, 1986). However, there is also an environmental perspective which can be significantly changed because of digitalization (Scuotto et al., 2023). The next section discusses the social learning framework, which includes cognitive, behavioural and environmental characteristics (Bandura, 2001b). The theory was chosen as a theoretical framework for this thesis.

2.3 Theoretical framework of the study

All decisions that are made by humans concerning their finance could be explained by traditional and behavioural finance theories (Bloomfield, 2011). Traditional scholars believe that the individual is highly financially informed and will always consume less than his/her income and increase savings and, therefore, smooth out the marginal utility throughout the lifetime (Akerlof & Yellen, 1987). However, traditional finance theories assume that individuals have some free resources left after the consumption spendings. Such an assumption is not always true (Lusardi & Mitchell, 2014). Behavioural scientists try to look at personal finance management from another perspective.

Behaviour theories became very popular among researchers not long ago. These combine theories from different areas – classic economics, finance and psychology (Huang et al., 2016). Ritter (2003) argued that behavioural finance tries to supplement standard financial theories, introducing a psychological dimension into the decision-making process, while Post & Levy (2005) pay attention to the theory of behavioural finance, which could explain market inefficiency and market anomalies.

In the study of personal finance, it is necessary to understand how people make their financial decisions and what determines their financial behaviour. However, it is difficult to measure the behaviour of individuals, and many traditional finance theories struggle to do so, especially in cases with many unpredictable (vulnerable) variables (Campbell, 2006). This propels scholars to use behavioural theories to study management of personal finance (Baker & Nofsinger, 2010).

Taking into account the specific empirical context (Ukraine) and changes that are happening there (digitalization), the theoretical framework of the thesis is based on one of the behaviour theories – social cognitive theory by Albert Bandura (1986).

Social cognitive theory (SCT)

According to SCT, people are "agentic operators in their life course, not just onlooking hosts of brain mechanisms orchestrated by environmental events" (Bandura, 1999b, p. 22). Individuals function as thinkers who generate thoughts that play decisive roles. They create thoughts regarding future courses of action that align with evolving circumstances, evaluate their potential functional significance, strategically organize and utilize the chosen alternatives, assess the effectiveness of their thinking based on the outcomes produced by their actions, and make any necessary adjustments accordingly (Bandura, 1999b). This also concerns the process of managing personal finance; therefore, SCT is being actively used to study consumers' consumption behaviour, in marketing research (Everett et al., 1994; Joshi et al., 2021; Phipps et al., 2013), and investment behaviour, in finance studies (Bin-Nashwan & Muneeza, 2023; Goyal et al., 2021).

According to SCT, behaviours are determined by, and in turn affect, both personal and environmental factors (Bandura, 1986). Therefore, one of the approaches of the theory is the triadic reciprocal model (Bandura, 1986, 1999a; Hoffmann et al., 2014).

This model shows the reciprocal causation between cognitive (or personal), behavioural and environmental factors, which function as interacting determinants of each other (Bandura, 1986). The term "causation"[2] is used to name the functional dependence between events (Bandura, 1999a). Reciprocity means that these events function as interdependent factors and influence each other bidirectionally (Bandura, 1991). Triadic causation lacks a predetermined pattern for mutual interaction. Instead, the significance of each category of influences depends on the actions, situational factors and the constraints and opportunities within the sociostructural context (Bandura, 1991, 1999a).

SCT highlights that the model of reciprocal causation does not show equal strength among the factors, and that the factors in the model do not operate simultaneously (Bandura, 1986). Bandura (2001a, p. 284) argues that "most behaviour is the product of multiple determinants operating in concert"; thus, the nature and strength of coexisting determinants will depend on different people, circumstances and activities (Johnstone & Hooper, 2016). For example, Bandura (1986) explains that if situational conditions are not strong enough, then personal factors will have more effect on the behaviour.

Reciprocal causation defines both the likelihood of an individual being engaged in a particular behaviour and the specific reasons for their engagement in that behaviour (Zhao & Zhang, 2021). As a consequence, individuals' financial behaviour (such as savings, spendings and investing activities) can be influenced by economic conditions, socioeconomic status and family structure, not through direct means but, rather, through their impact on individuals' aspirations, sense of efficacy and other personal factors (Bandura, 1999b). These are meant to be cognitive (or personal) determinants. The cognitive determinants in SCT are explained by analytic thinking, personal goal setting, and an individual's perception, beliefs, expectations, knowledge and skills (Bandura, 1986, 1991; Boateng et al., 2016).

[2] Could also be named "determinism"

The other component of SCT which predicts people's behaviour is environment. The environmental determinant is explained by the characteristics of the environment, the level of challenge it presents and its receptiveness to different interventions (Bandura, 1999b). For example, SCT emphasizes the significance of environments that foster people changing their financial behaviour and trying e-finance innovations (Ratten, 2012). A distinction can be made between physical and social environments (Johnstone & Hooper, 2016). The physical environment is the individual's surroundings, which consist of natural and man-made objects (Boateng et al., 2016). The physical environment is imposed upon people, whether they like it or not (Bandura, 1999b). According to previous studies, physical environment enables behaviour as well as social environment (Boateng et al., 2016; Phipps et al., 2013).

The physical environment plays the predominant role in the current research. The study emphasizes the principal aspect that changes the physical environment for people to manage their personal finance – digitalization. Sun et al. (2020) argue that "the digitalized person, digitalized environment, and digitalized behaviour can also provide feedbacks for digital technologies to make corresponding adjustments" (Sun et al., 2020, p. 4). Thus, digitalization is studied as a physical environment in each empirical paper of this thesis.

The social environment is usually constructed by people through generative efforts (Bandura, 1999b). It includes social relationships and other socio-structural practices. This socio-structural practices introduce constraints and provide opportunities for individual development, as they are created by people's activities. As Bandura (1986, p. 29) highlights, "social environments provide an especially wide latitude for creating conditions that can have a reciprocal effect on one's own behaviour". Thus, our society has a great impact on our financial decisions and behaviour as well.

Social structures include social mechanism, which could be illustrated as "…social influence, peer effects, community effects, neighbourhood effects, network effects, herding, mimicking, conformity, or observational learning" (Kaustia & Knüpfer, 2012, p. 323). Therefore, SCT is used by scholars to explain the influence of social environment on people's behaviour (Johnstone & Hooper, 2016), which could also be interpreted as the financial behaviour of people. For example, previously, it was shown that the use of social networking sites by individuals influences their financial behaviour (She et al., 2023).

In the triadic reciprocal model, cognitive and environmental determinants interact with behaviour. The behavioural factors include past, present and future behaviour, where past and present influence the environment and cognitive factors, and future behaviour is determined by these factors (Johnstone & Hooper, 2016). Thus, consumers are not only producers of their behaviours but also the product of their environment and their past behaviours (Bandura, 2001b; Phipps et al., 2013). The behavioural factors are defined by individuals' actual managerial choices that are implemented (Bandura, 1991). These also include how people act or respond to the particular object or situation (Boateng et al., 2016). Considering the mentioned points, SCT can be used in investigating the financial behaviour of people.

Figure 1 shows that personal and environmental determinants can influence future behaviour, but they are also affected by past and present behaviour.

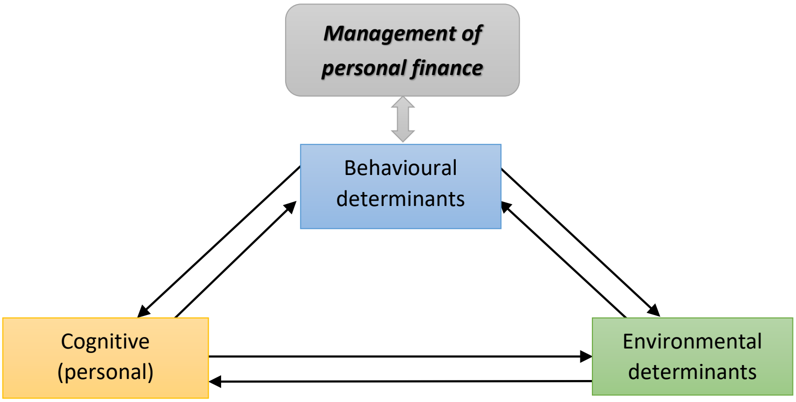

Figure 1. *SCT framework*
Source: Adapted by author, based on Bandura (1986)

The causation in the triadic model could be studied in different ways. Bandura (1999a) discusses all the possible options of the bidirectional conception of interaction: cognitive => behaviour; behaviour => cognitive; environment => cognitive; cognitive => environment; behaviour => environment; environment => behaviour. Bandura (1999a) argues that, historically, the reciprocal causation between behaviour and environmental determinants has received the most significant emphasis. To fully understand the interactive causation between social environment and behaviour, however, the analysis should also include cognitive determinants. An illustrative example of reciprocal determinism of SCT is presented in Appendix A.

Therefore, the model of reciprocal determinism of SCT was used in this thesis to explain the financial behaviour of people (how they manage personal finance) by looking at the interaction between behavioural, cognitive and environmental factors (see Figure 1).

2.4 The research gaps and conceptual framework

This dissertation uses social cognitive theory as a theoretical framework for several reasons: first, to understand the role of digitalization in changing the physical environment and reshaping the financial behaviour of people; second, to show how individuals manage their personal finance in a digital era, by studying factors which influence their financial behaviour; and third, to define whether there is a reciprocal causation between the studied determinants (Bandura, 1986). The reciprocity is key in terms of personal finance because people's financial decisions depend on many macroeconomic factors and can change the general economic environment at the same time.

Thus, the current research aims to examine how cognitive and social environmental factors influence how individuals manage their personal finance (which is their financial behaviour) when digitalization is on the way. So, first, the literature review paper sheds light on different factors from the traditional and behavioural finance schools which influence the management of personal finance. Then, the three empirical papers focus on how personal and environmental determinants influence the financial behaviour of people. However, it was not possible to study all the factors, so, further, this section explains the choices for the empirical studies.

Figure 2 explains the structure of the thesis. The first paper, the literature review, focuses on general topics in the field of personal finance and distinguishes digitalization as one of the potential topics for future research. In addition, the literature review found limited personal finance research in the context of transitional economies. The thesis uses two approaches from social cognitive theory: causality between cognitive, behaviour and environmental factors, and possible reciprocity of these determinants. Based on these, the empirical papers studied the influence of cognitive and social environmental factors on financial behaviour in the digitalized environment in a country with a transitional economy.

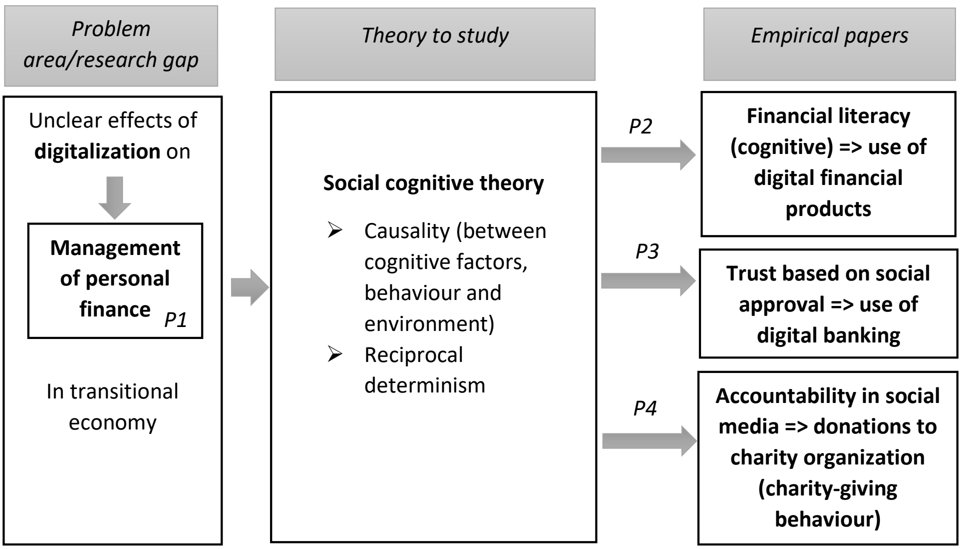

Figure 2. *Conceptual framework of the thesis*
Source: Adapted by author

As previously mentioned, as a part of the physical environment, digitalization enables behaviour as well as social environment (Boateng et al., 2016; Phipps et al., 2013) and, thus, changes the individual financial behaviour. The empirical papers examine how these relationships unfold concerning the new types of digitalized financial products, choice to trust digital banking and decision to donate.

Digitalization changes the nature of financial products and services and thus questions whether people's basic financial literacy is sufficient to deal with digital innovations in the financial sector (Koskelainen et al., 2023). The first empirical paper examines the relationship between cognitive determinant (financial literacy) and financial behaviour influenced by digital technology. Financial literacy is described by SCT as a cognitive factor, as it includes financial knowledge, understanding, reliance, basic financial skills and motivation (Warmath & Zimmerman, 2019). Previous studies regarding financial literacy have emphasized the importance of financial knowledge for the effective management of personal finance (Andreou & Anyfantaki, 2021; Jappelli & Padula, 2013; Xiao et al., 2014). However, there is a lack of studies on the role and helpfulness of financial knowledge in a digital era and, thus, the possible importance of digital financial literacy (Setiawan et al., 2020). Considering the impact of digitalization on people's financial behaviour, it is essential to take into account both their digital and financial literacy (Lo Prete, 2022). In this way, digitalization reshapes the previous perception of financial knowledge. Thus, Paper 2 of the thesis investigates the influence of financial literacy on people's decisions to use financial services or products via digital financial services platforms (e-banking, Internet purchases, cryptocurrencies, etc.) and discusses the role of digital financial literacy.

In addition, digitalization changes the nature of banking and, as a consequence, brings new challenges in building a trust relationship between financial institutions and their clients (Dehnert & Schumann, 2022). Moreover, trust emerges as a pivotal concern in any social setting that encompasses both individuals and technology (Boateng et al., 2016). There are various approaches to trust and, therefore, it can be presented as an environmental determinant as well as cognitive or behavioural in a causation model. For example, Boateng et al. (2016) discuss the impact of trust on the intentions of individuals to adopt Internet banking and describe trust as a social relationship, which is a social environmental determinant. Their research contributes to the acceptance of technology, by examining the significance of online customer service and the social aspects of a website in relation to the inclination to adopt Internet banking. The current dissertation studies trust in Paper 3 and perceives it as a relationship between banks and their clients. The focus of the paper is on the shift from institution-based to social network-based trust in banking, due to digitalization. Therefore, trust is a determinant of social environment, for this research.

Finally, digitalization changes possibilities to use social media, which could significantly influence people's financial behaviour, for example concerning donations. In recent years, as a consequence of digitalization, the use of social media has been considerably increasing, stimulating more and more organizations to use this tool for everyday communication with individuals (Harris et al., 2021). The findings of She et al. (2023) align with the principles of SCT, demonstrating that the incorporation of communication technology, such as social networking sites, affects individuals' development of cognitive beliefs, subsequent behaviours and psychological states. Therefore, Paper 4 focuses on individuals' decisions – to donate and keep donating their personal finance to charity organizations – which are influenced by what is posted on social media. The motivation of this research was encouraged by the continued increase of social media, which has changed the common way of different organizations' activities, such as accountability (Bellucci & Manetti, 2017; Bilgin & Kethüda, 2022; Landi et al., 2022), and brought about a significant change in the financial behaviour of Ukrainians, due to the beginning of full-scale war. So, this research shows how a Ukrainian charity fund organizes its accountability in social media to increase donations from people.

So, in the current study, a triadic causation model (Bandura, 1986) is used to examine how cognitive and environmental factors influence management of personal finance in the digital era.

3 EMPIRICAL CONTEXT OF THE STUDY

To look at the topic of personal finance in the Ukrainian context is beneficial and interesting for several reasons, which characterize Ukrainian reality. First of all, the topic of personal finance is not developed in countries with transitional economies, including Ukraine, from the theoretical perspective. There are few financial educational programmes, which could explain the basics of personal finance (USAID, 2019, 2021). The level of financial literacy in Ukraine is far behind the leading European countries. According to the USAID (United States Agency for International Development), study on financial literacy, the Financial Literacy Index for Ukrainians was 11.6 points out of 21, which is the lowest mark in Europe. Moreover, now, because of the war and, therefore, the unstable political and economic situation, Ukrainians are experiencing a lack of trust in putting their money in some financial institutions, preferring to save their money at home “under the pillow”, as they used to do during the 1990s (Stix, 2013).

Before the war – important role of digital financial products and services

In spite of the fact that the Ukrainian financial market is far behind that of developed European countries, the level of digitalization is high (Aridi et al., 2021). Digitalization of financial products in Ukraine started not long ago but has developed very quickly: before the full-scale war started, Ukraine was the number one country in the world in terms of the pace and speed of digital transformation (Ionan, 2022). The key to the success of Ukraine’s digital resilience included pre-war investments in digital capacity and enduring presidential support, as evidenced by the establishment of a Ministry of Digital Transformation (Mamediieva & Moynihan, 2023).

Such a high level of digitalization provided Ukrainians with innovative financial products and services, such as e-banking or cryptocurrencies (in 2022, Ukraine ranked second place in the world for the use of cryptocurrencies (Carbonaro, 2022)), which are now playing an important role in military and humanitarian donations (Feingold, 2023).

After the war started – increased level of donations and digitalization

The Russian-Ukrainian full-scale war that started in February 2022 has changed people's priorities in their financial decisions. The level of donations to Ukrainian charity and volunteer organizations was increased significantly. Since the beginning of the war, Ukrainians have created dozens of charitable foundations, fundraising platforms and volunteer headquarters, which collect significant sums for the needs of the army and provide it with the latest weapons and military equipment (Krykunenko, 2022). Compared with 2021, the involvement of Ukrainians in charity in 2022 increased significantly – 86% of Ukrainians made donations or became volunteers during 2022 (*Charity in times of war*, 2022). Moreover, the average charitable contribution in 2022 grew nine times, compared to the previous year, as well as the number of volunteers, which increased and now constitutes a third of Ukrainians (*Charity in times of war*, 2022).

The 2022 Charitable Aid Foundation survey put Ukraine in tenth place in the world for donating among 119 countries, with a giving index of 49% in 2021 (*World Giving Index 2022 A global view of giving trends*, 2022). Since the full-scale war started, Ukrainians have donated in total 54.6 billion UAH (ca. 1.38 billion USD) (*New voice of Ukraine*, 2023) – this includes only donations from people and does not include banks and private companies. This is an impressive and huge amount of donations to military and humanitarian needs, which has not previously been evidenced by world history.

Furthermore, the Ministry of Digital Transformation has continued its work during the war and is launching new services to help people deal with crisis issues (Ionan, 2022). In 2022, the digital sector of Ukraine increased by 5% amid record digital exports (Tett, 2023). Government authorities now recognize the significant possibilities offered by technology and envision it as a crucial foundation (Mamediieva & Moynihan, 2023). To compare, before the war, the economy of the country was primarily controlled by the agricultural sector and heavy industry, whereas now the focus is on the digital sector (Tett, 2023).

4 METHODOLOGY

The methodological choice for this research was based on the chosen ontological paradigm, epistemological philosophy and chosen theory, which this study contributes. SCT was used to examine how individuals make their financial decisions. The central phenomena of my research are: cognitive and environmental factors which might influence management of personal finance (as people's financial behaviour) in digitalized settings.

A brief description of all stages of the research is presented in Table 1.

	Stage I	**Stage II**	**Stage III**	**Stage IV**
Type of paper	Literature review	Research paper	Research paper	Research paper
Research design	Literature review	Logistic regression	Case study	Longitudinal case study
Context	General	Ukraine	Ukraine	Ukraine
Research methods	Qualitative: comprehensive study of articles from peer-reviewed journals	Quantitative: questionnaire	Qualitative: interviews, documentation, observation	Qualitative: netnography
Study units	Academic articles on chosen topic (personal financial decisions and behaviour)	Students (484) of Ukrainian universities	4 Ukrainian banks (including 2 neobanks)	Ukrainian charity organization
Empirical material (primary data)	-	484 responses from students collected in the questionnaire	8 interviews with bank representatives	3 interviews with the Fund representatives and external expert
Empirical material (secondary data)	50 journal articles in high-ranking journals (ABS journal ranking)		Official websites of the banks, social media official pages of the banks	Data from Instagram, Facebook and YouTube; official website of the charity Fund

***Table 1**. Methodology of each stage of the research*

4.1 Philosophical stance

In natural and social science, there are debates around most usable epistemological philosophies – postpositivism and social constructivism (Easterby-Smith et al., 2014), These philosophies are completely opposite. Postpositivism examines issues that highlight the necessity of identifying and assessing the factors that influence results (Creswell & Creswell, 2018), whereas social constructivism is a new paradigm, which focuses on the experience of people while exploring the world (Creswell & Creswell, 2018; Shotter, 1993). Consequently, these philosophical views provoke another debate concerning research methodology: the quantitative versus qualitative paradigm (Johnson & Onwuegbuzie, 2004).

However, there is also “a third alternative” – pragmatism. Pragmatism gives the researcher freedom from the constraints obtruded by the “forced choice dichotomy between postpositivism and constructivism” (Creswell & Plano Clark, 2007, p. 27). This philosophy has an openly value-oriented perspective to research (Johnson & Onwuegbuzie, 2004).

Table 2 compares the main philosophical worldviews and points to those which are suitable for the empirical studies of the thesis. It appears that pragmatism is a foundation for the methodological choices for three empirical studies of the thesis.

Philosophical Worldview	Main characteristics	Research methods	Research design mostly used
Positivism/ Postpositivism	Studies the problems which reflect the need to determine and evaluate the causes that impact outcomes	Experiments, surveys, longitudinal studies	Quantitative
Constructivism	Focuses on the participants' views of the studied situation and the specific context in which people live and work	Narrative research, phenomenology, grounded theory, ethnography, case study	Qualitative
Pragmatism	Focuses on the research question in social science and uses a pluralistic approach to obtain knowledge about the problem	Multiple methods	Mixed

Table 2. *Comparable characteristics of philosophical worldviews*
Source: Adapted by author, based on Creswell and Creswell (2018)

In the thesis, beliefs rest on the assumptions that personal finance management is the phenomenon, which is based on individual approaches, and, thus, there is no one truth. Additionally, it is quite laborious to define one concrete discipline which would focus only on personal finance, as this is a multidiscipline study. Most philosophies from these fields are based on how people make sense of the world through sharing their experience (Easterby-Smith et al., 2014). Recognizing the unpredictable human factor forces pragmatic scholars to maintain adaptability to unforeseen data that may arise (Yvonne Feilzer, 2010).

The thesis looks at how digitalization influences management of personal finance, by examining various factors with the help of SCT. From this perspective, a pragmatic philosophic paradigm is the best option for the research. As a worldview, it arises from situations, actions and consequences. Pragmatism is not committed to the existing systems of philosophy and reality (Creswell & Creswell, 2018). With a pragmatic approach, conceptual standards change from ontological privilege to contextually situated practical value. Pragmatism accepts that there are singular and multiple realities, focusing on addressing real-world practical issues (Yvonne Feilzer, 2010).

Pragmatism is valued not because the world is meant to be metaphysically simple but because of the human likelihood of preserving cognitive resources. In its turn, with variation of these cognitive resources across speakers, listeners and other conditions, the evaluation of the theory’s simplicity will also change. As a result, there is no one set of conceptual standards which could identify the scientific method for a pragmatic worldview (Long, 2013). Typically, for a pragmatic approach, most suitable is abductive reasoning, which moves between induction and deduction, making theories from observations and then evaluating these theories through the actions (Morgan, 2007).

Johnson and Onwuegbuzie (2004) define the following characteristics of pragmatism:

- Accepts the significance of the natural and physical world, which includes culture, human institutions and subjective thoughts;
- Highly assesses the reality and the impact of the human experience’s inner world in action;
- Knowledge is seen as a product of both our active construction and our interaction with the real world we encounter and inhabit;
- Theories could be true to different degrees, based on their workability;
- Current truth, meaning and knowledge are not constant and change over time;
- Adopts a research approach that openly incorporates cultural values, particularly endorsing common values like democracy, freedom, equality and advancement.

When using SCT to study management of personal finance, findings based on a pragmatic approach might help to construct an overview of the individual’s behaviour in the real world and in real time. Pragmatists view theories as instruments for problem solving (Johnson & Onwuegbuzie, 2004). In the thesis, SCT is presented to help to build a conceptual framework for the research and, consequently, construct arguments based on findings.

Pragmatism does not seek constant, unchanging causal relationships or absolute truths. Instead, it aims to study a specific question, theory or phenomenon, using the most suitable research method (Yvonne Feilzer, 2010). According to SCT, the causal relationship is explained in the dynamic environment to identify a change and influence of studied determinants (Boateng et al., 2016). The current study centralizes digitalization as a main component of occurring changes. Hypothetically, before digitalization struck, the causal relationship between the studied factors was different. Moreover, digitalization changes our environment all the time, so there is no absolute truth, and a causal relationship may be modified with time.

In addition, according to Bernstein (2017), “pragmatist causation does not exist without the perspective of human agents”. In SCT, the phenomenon of “human agency” is central throughout the whole theory explanation (Bandura, 1986). Moreover, pragmatism is actively used to explain the social component of people’s lives. It might empower researchers to appreciate the complexity and unpredictability of social life and revive a sociological creativity (Yvonne Feilzer, 2010). In the current thesis, with the help of SCT, the social aspect becomes one of the influential determinants in people’s financial behaviour.

Thus, pragmatism can help to examine the effectiveness and utility of social cognitive theory in understanding and addressing real social and cognitive issues in management of personal finance.

4.2 Research design

Based on the aforementioned information and Table 2, pragmatism allows the use of multiple methods, different worldviews, assumptions and data collection and analysis techniques, which is very comfortable and suitable for mixed methods research design (Creswell & Creswell, 2018). Mixed methods research should use a method and a philosophy that aims to combine the insights from qualitative and quantitative research into a workable solution (Johnson & Onwuegbuzie, 2004).

Most scholars who focus on SCT prefer quantitative designs, since they build a hypothesis and explain the causality between the factors by regressions and correlations (Bin-Nashwan & Muneeza, 2023; Boateng et al., 2016; Zhao & Zhang, 2021). However, there are also studies based on SCT which focus on qualitative design (Johnstone & Hooper, 2016; Nguyen et al., 2022; Phipps et al., 2013). Thus, the research design of this thesis is in line with previous studies.

The research designs used in the study based on pragmatism are: archival research (for literature review); case method (Yin, 2009), which is applicable for all philosophies of epistemology (Easterby-Smith et al., 2014), inferential survey, which is focused on people's experiences, and netnography (for social media analysis) (Jeacle, 2021).

In addition, mixed methods could be used in different ways, which describe the different types of designs: convergent design (one-phase design) and exploratory sequential design (two-phase and three-phase design) (Creswell & Creswell, 2018). In Papers 2 and 3, only quantitative and only qualitative research designs were used respectively, thus making them convergent or one-phase designs. However, in the fourth empirical paper, two research methods were combined, starting from netnography analysis and conducting several interviews to strengthen the results; therefore, a two-phase explanatory sequential design was used.

Selection of the major factors which were studied in the empirical papers was based on the systematic literature review (Paper 1), their significance in the field and different types of approaches. In order to form a comprehensive pattern between certain factors of influence and personal finance, it is essential to select different methodological approaches and use mixed methods. The approach for the mixed method research design of the current thesis is presented in Figure 3.

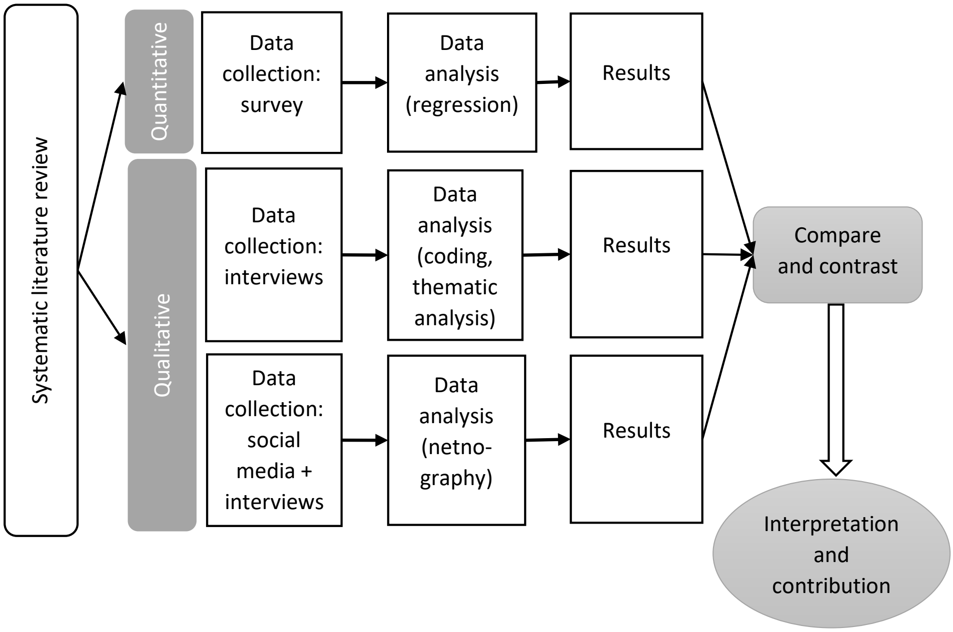

Figure 3. *Mixed method research design approach*
Source: Adapted by author, based on Creswell and Creswell (2018)

Therefore, based on the chosen philosophic paradigm (pragmatism) and research design (mixed methods) and in order to achieve the aim of the research (*how digitalization influences management of personal finance*) with the help of SCT, the methodology was divided into the four stages described below.

Methods for studying management of personal finance (Paper 1)

The first stage was conducted based on a comprehensive study of articles in high-ranking (3, 4 and 4* according to ABS journal ranking) peer-review journals concerning personal finance and factors which influence the financial planning, decisions and behaviour of individuals. This is a systematic literature review, which was undertaken with the help of PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) methodology.

The aim of the study is to look at the topic of personal finance, investigate its phenomenon and analyse factors which influence the financial planning decisions and behaviour of individuals. This paper starts by picking up the most suitable articles for the analysis. The articles were searched for in Scopus and Web of Science databases and narrowed down to 50 articles after all phases of PRISMA – identification and screening.

The inclusion and exclusion criteria were based on the subject area, language, journal ranking and topic of the article. Articles which concentrate on the conceptualization of personal finance, define the important components of personal finance and factors of influence on personal finance and its components were included in the analysis. Topics not connected to personal finance or its components were excluded from the analysis.

In this stage of the research, the main rational and irrational factors, which influence personal financial planning, decisions and behaviour, were identified and, therefore, are studied in the articles that follow.

Methods for studying financial literacy (Paper 2)

The second stage is devoted to the first factor – financial literacy – and its influence on the financial behaviour of the young. The research assesses the level of financial literacy among Ukrainian university students and analyses the influence of financial literacy on their financial decisions and behaviour concerning usage of digital financial products and services. This study has a quantitative research design, is based on six hypotheses and is undertaken with the help of an online questionnaire implemented with the help of the Nettskjema questionnaire tool. After gathering the responses, the results were analysed with the help of a logistic regression model and analysis of variances (ANOVA).

Methods for studying trust (Paper 3)

In the *third stage*, trust, the second factor of personal financial behaviour, is analysed. This is a case study that was carried out on Ukrainian banks, which are divided, according to their characteristics, into classical banks and digital banks (neobanks).

Many scholars present the case study as a strategy of implication and a comprehensive methodology (Creswell & Poth, 2013; Yin, 2009). The paper studies multiple bounded systems (cases) – banks. Banks are real-life cases, which are described within certain parameters (Creswell & Poth, 2013). The intent of the case study was to explore trust in banks and how it shifts due to digitalization.

Multiple case studies make stronger arguments for theory building (Yin, 2009), because there are various types of banks in Ukraine and it is difficult to make conclusions based on one case. Moreover, the findings were compared across these cases, and propositions were made based on varied empirical evidence (Eisenhardt & Graebner, 2007). The case study in the paper is focused on Gioia et al. (2013) approach and is concentrated on modelling the informant meaning (Langley & Abdallah, 2011).

Methods for studying crowd-based accountability (Paper 4)

The *fourth stage* of the research was divided into two stages. For social media analysis, the netnography research method was used (Jeacle, 2021). Regarding the data collection approach, archival data was collected, rather than actively engaging in conversations with the Fund through social media platforms. As a result, the netnography method can be classified as passive in nature (Jeacle, 2021). The second stage of the research included semi-structured interviews with representatives of the charity organizations who deal with social media communications. This was done to provide triangulation for the study. The analysis included the following social media platforms: Facebook, Instagram and YouTube.

4.3 Data collection method

The data-collection strategy is flexible and emergent, as the information was gathered from a variety of sources (Gioia et al., 2013) – primary data sources (qualitative semi-structured interviews, surveys) as well as secondary (reports, websites, news, Facebook, Instagram pages, YouTube channels, analytical data on total financial indicators and main activities, etc.).

Interviews

The interviews were undertaken for Papers 3 and 4. For Paper 3, interviews with eight representatives from four banks were conducted. The data collection (interviews with bank representatives) lasted three months – June, July and August 2021. The sampled interviewees included heads of banks' departments, representatives of technical support services, specialists in specific services and managers. All of them were connected, both directly and indirectly, to the work with individuals. The purpose of the research was to understand trust as a part of client-bank relationships, which can be perfectly described by managers and employees who are directly engaged in these relationships (Ahmed et al., 2020).

For Paper 4, regarding accountability in charity organizations, three interviews were also carried out with employees of the studied Fund, who work directly with social media, and one external expert. The interviews were organized for deeper understanding of the process of communication in social media and in private messages.

Questionnaires

The surveys in the PhD thesis were prepared to gather data for Paper 2 concerning financial literacy. The survey was sent to Ukrainian students. Due to the beginning of full-scale war, the process of gathering data stopped at the end of February 2022; as a result, 484 responses were gathered, which was enough for the analysis.

Secondary data

The literature review in my thesis is based on secondary data. The data consists of 50 articles in high-ranking economic journals, which are analysed with PRISMA methodology. Secondary data was used also to provide triangulation in the empirical studies (Creswell & Creswell, 2018). This included the websites of the banks (studied in Paper 3) and the charity Fund (studied in Paper 4), the NBU (National Bank of Ukraine) website, the World Bank website and news articles.

Social media data

Social media data forms part of the secondary data; however, it plays an essential role in the thesis, as the analysis in Paper 4, for example, is mostly based on social media data. The research design is based on netnography methodology (Jeacle, 2021). The analysis included posts and videos from Facebook, Instagram and YouTube. These were analysed for a period of approximately one year: from 15.04.2022 to 08.03.2022.

Social media data was also used for Paper 3 – official bank pages in social media were explored in Facebook, YouTube and Instagram, which contained audiovisual materials.

4.4 Validity and reliability

Validity and reliability are important for qualitative as well as quantitative research. However, the application of these concepts varies according to the type of research (Creswell & Creswell, 2018). As I conducted mixed method research, I have to provide validity and reliability for qualitative as well as quantitative research, considering their characteristics and main differences.

Validity assesses whether the research accurately measures what it was meant to measure or the degree of accuracy in the research results (Creswell & Creswell, 2018). Validity of pragmatic research "requires reflection on the question or theory to which the data speak" (Yvonne Feilzer, 2010, p. 14). Validity is used in quantitative studies, as researchers ask questions and form hypotheses to determine validity or try to find answers in other relative studies. Quantitative validity is defined by the scores of the appropriate instruments (Creswell & Creswell, 2018). The following actions were taken in order to ensure such validity and reliability for the quantitative research:

- easy and understandable questionnaires were prepared, divided into several sections for convenience, and sent directly to students;
- only truthful data was gathered from students via questionnaires – all answers were checked for duplicates or mismatches;
- the validity of the scores was identified in the survey (i.e., the scores of financial literacy);
- the questions in the survey were linked to the frame of the analysis and checked as to whether the scores correspond to the aim of the study.

In qualitative research literature, validity is addressed by the terms “trustworthiness”, “authenticity” and “credibility” (Creswell & Creswell, 2018). Qualitative validity means that the scholar should check the accuracy of the findings by using special procedures (Creswell & Creswell, 2018). In the empirical papers of the thesis, which use qualitative research methods, the following strategies were used, in order to assure validity:

- triangulation of the gathered primary data with the help of secondary sources of information;
- information was gathered from experienced professionals in the banking field;
- the questions in interviews were linked with the theoretical frame of the empirical study;
- all interview transcripts were sent back to the interviewees for possible corrections, additions and then approval.

In quantitative research, “reliability” is a concept that is used for testing and estimating the phenomena. It refers to the consistency or repeatability of a variable (Creswell & Creswell, 2018). The idea of “reliability” is also used in qualitative studies. If some idea needs to be tested and appropriate information has to be gathered for the study, then the most important issue of any research is its quality (Golafshani, 2003). For example, in the case of qualitative research, reliability can provide understanding of a situation that would otherwise be confusing or mysterious (Eisner, 1991). Thus, qualitative reliability signifies that the research approach used in the study is consistent with those of other scholars and projects (Creswell & Creswell, 2018).

The reliability of the research was strengthened by participation in conferences, seminars and workshops, where the results were presented and feedback from external experts and researchers was received.

5 SUMMARY OF RESEARCH PAPERS

This chapter provides an overview of the dissertation papers, as presented in Table 3.

Paper	RQ	Theory	Method	Contribution
Management of personal finance: noticeable complementarity between rational and behavioural finance schools	*RQ1: What are the research trends in the field of personal finance in high-ranking academic journals?* *RQ2: What are the main similarities and differences in the research of personal finance from rational and behavioural perspectives, based on the factors which influence the financial decisions and behaviour of people?* *RQ3: What are the current thematic trends of research in the field of personal finance, and what can be suggested for future research?*	Rational and behavioural finance theories	Literature review	The incomes and outcomes of personal financial decisions were organized; the factors which influence management of personal finance were classified according to the finance school (traditional or behavioural); the most discussed topics in the personal finance research were presented.
Is financial literacy sufficient for digital financial products? Evidence from young people in Ukraine	*RQ1: What is the level of financial literacy of Ukrainian youth?* *RQ2: How does financial literacy impact on the preferences of Ukrainian youth in using digital financial tools?*	Financial literacy	Regression analysis	The level of financial literacy of young people has no significant influence on their decisions and behaviour regarding digital financial products and services. Therefore, possible implementation of digital financial knowledge has importance.
Transforming the nature of trust between banks and young clients: from traditional to digital banking	*RQ1: How does the shift from traditional to digital banking transform the nature of trust between the banks and their younger clients from the perspective of bank employees?*	Institution-based and social-network based trust	Case study	Digitalization shifts the nature of trust between the banks and their clients from institution-based to social network-based, with the help of social approval as a main component which influences trust
Unfolding crowd-based accountability of a charity fund during the war	*RQ1: Does social media pressure charities to discharge accountability for crowd-based funding?* *RQ2: How does crowd-based accountability change when charities engage seriously in accountability dialogue?*	Crowd-based accountability	Longitudinal case study	Accountability of charity organizations is changed under the pressure of the public in social media. Unfolding crowd-based accountability in the charity fund was detected; longitudinal character of accountability is explained by the conditions of war.

Table 3. *Overview of the papers that are part of the PhD thesis*

5.1 Paper 1: Melnyk V., "Management of personal finance: noticeable complementarity between rational and behavioural finance schools"[3]

This paper provides a general overview of the field of personal finance, with a focus on personal financial planning, decision-making and behaviour, naming these processes "management of personal finance". There are two major finance schools – traditional and behavioural – which have debates around their approaches to studying personal finance (Bloomfield, 2011; Brav et al., 2004). This is because personal financial decisions are difficult to measure and therefore analyse (Campbell, 2006). Both finance schools study factors which influence management of personal finance, but, in the case of the traditional school, these factors are rational, whereas the behavioural school concentrates on irrational factors (Bloomfield, 2011). Thus, it is important to distinguish between and systematize the factors which influence personal financial management, as presented by both these schools.

To achieve the purpose of this research, a systematic literature review was conducted, which returned a total of 50 articles published in high-ranking journals (3, 4 and 4* according to ABS ranking). The findings concerning research trends reveal that, during the last five years (from 2018 to 2022), the topic of personal finance has been greatly discussed among researchers – around half of the analysed papers were published in this time period. In addition, the majority of articles conducted their research in the US (Wadhwani, 2011). This indicates unequal distribution across developed countries globally and a lack of studies conducted in developing countries. Future research should address this issue and pay attention to studying personal finance in developing countries.

The findings illustrate that personal finance is filled by incomes and is used for outcomes. Incomes are generated from wages (labour income), borrowings and loans (which are divided into debts and mortgages) and interest from assets, equity and

[3] Planned to be submitted to *International Journal of Bank Marketing*

investments. Simultaneously, individuals have the option to allocate their money in a variety of ways including expenditure (for consumption), taxes and fees (Campbell, 2006; Gomes et al., 2021).

In addition, the study identified the factors which influence management of personal finance and divided them into traditional and behavioural streams, according to their nature. Further, I highlighted the most discussed topics in the personal finance research: financial literacy (Klapper & Lusardi, 2020; Lusardi & Mitchell, 2014), relationship with financial institutions (Croux et al., 2020; Hansen, 2012; Stix, 2013), influence of social environment (Agarwal et al., 2018), digitalization and FinTech (Croux et al., 2020; Liu et al., 2022), financial well-being (Brüggen et al., 2017), financial distress and bankruptcy (Keys et al., 2022).

To summarize, the results show that rational as well as personal and behavioural characteristics are important for personal financial management, and future research should develop this field (Kaustia et al., 2023).

5.2 Paper 2: Melnyk V., Antoniuk Y., "Is financial literacy sufficient for digital financial products? Evidence from young people in Ukraine"[4]

This paper addresses the importance of financial literacy for individuals (Lusardi & Mitchell, 2014) in a digital era. The majority of studies show the significant influence of individuals' financial knowledge on their financial behaviour and decisions (Klapper & Lusardi, 2020; Lusardi & Mitchell, 2014). Consequently, financial literacy is a basic knowledge that people need in order to provide themselves with a prosperous and financially safe future (Lusardi & Mitchell, 2011). However, it is not clear whether changes in the financial world connected to digitalization should also cause a change in financial knowledge (Setiawan et al., 2020). Thus, the paper aims to assess the level of financial literacy of the Ukrainian youth and show the impact of financial literacy on

[4] Submitted to *International Journal of Consumer Studies* (Status: Under review)

their preferences in using digital financial tools. To do so, the questionnaire was developed and sent to students (Bachelor, Master and PhD) at the biggest Ukrainian universities, to assess the level of their financial literacy and distinguish the main characteristics of their financial behaviour.

The analysis was divided into two parts. The first one evaluated the level of financial literacy among students and revealed the significance of socio-demographic characteristics regarding financial literacy. The findings reveal that average financial literacy is at the medium level, which means that 60-79% of students answered questions correctly. Such results show that the level of financial literacy of Ukrainian students is more or less the same as that of European students (Chen & Volpe, 1998; Ergün, 2018). The study also uncovers socio-demographic factors influencing financial literacy, including gender, field of study, how studies were financed and parental income.

The second part of the analysis was focused on the influence of the students' financial knowledge on their financial decisions and behaviour regarding digital financial products and services. The results revealed that general level of financial literacy does not significantly influence variables which correspond to e-banking, e-wallets, cryptocurrencies, purchases via Internet and personal financial apps. However, during the research, sub-categories of financial literacy were also tested in a separate model, and it became evident that students with greater knowledge about savings are more inclined to use online banking/mobile banking/Internet banking, download mobile banking apps and use e-wallets.

The paper contributes to the financial literacy field of studies by showing that socio-demographic characteristics have a significant influence on the financial literacy of students, which is consistent with the findings of previous studies (Andreou & Anyfantaki, 2021; Ergün, 2018; Lusardi et al., 2010). Additionally, the current study emphasizes the importance of the possible implementation of digital financial knowledge, which has already started to appear in the scientific communities

(Koskelainen et al., 2023; Setiawan et al., 2020). Moreover, the results presented in the paper show that government and educational institutions should be motivated to provide special educational programmes concerning financial issues for young people (Lusardi et al., 2010).

5.3 Paper 3: Melnyk V., “Transforming the nature of trust between banks and young clients: from traditional to digital banking”[5]

The purpose of this study is to discover the trust relationship between banks and their young clients and to analyse how digitalization modifies the nature of trust in banking products and services. Trust in the financial market has a particular impact on the development of personal finance (Hansen, 2012). If an individual has confidence in the honesty of financial intermediaries, highly appreciates their reliability and makes sure of the openness of actions, then he/she makes financial decisions faster and is more actively engaged in investment activities (Zsótér & Bauer, 2019). Thus, trust is crucial for proper functioning of the financial system (Chang & Hung, 2018; Esterik-Plasmeijer & van Raaij, 2017; Harrison, 2003). When the level of trust is low, consumers will not use financial services which are offered by financial institutions.

The nature of trust could vary. For example, institution-based trust describes the relationship between financial institutions and people as the main actors (Cruijsen et al., 2020), whereas social network-based trust is transferred from people to people (Kim & Prabhakar, 2004). The paper defines trust as interpersonal connections between individuals and financial institutions (specifically banks) and examines them from both institutional and social perspectives. In figuring out the role of trust in the relationship between banks and their younger clients, the study refers to the institution-based and social network-based trust. Thus, the paper aims to show that

[5] Melnyk, V. (2023). Transforming the nature of trust between banks and young clients: from traditional to digital banking. *Qualitative Research in Financial Markets*, *ahead-of-print* (ahead-of-print). https://doi.org/10.1108/QRFM-08-2022-0129

the shift from traditional to digital banking is transforming the nature of trust between the banks and their younger clients, from the perspective of bank employees.

To fill this gap, the study focuses on traditional and digital banking in Ukraine and investigates the ways that banks use to build trust among their clients, specifically young people aged between 18 and 35. The research made several discoveries. The first finding is connected to the perception of trust among their younger clients by Ukrainian banks. It is revealed that the banks do not experience any difficulties with trust among young people. This is mostly explained by new approaches and methods, connected to the shift from classical banking to digital banking. In addition, young people did not experience the loss of trust that their ancestors did (Stix, 2013).

The next finding is that digitalization changes the perception of trust among clients from institution-based to social network-based (Kim & Prabhakar, 2004). This is explained by digitalization processes which are important for trust building (Berraies et al., 2017; Pousttchi & Dehnert, 2018).

Finally, the results show the presence of social approval (a social component, based on loyalty programmes) in the trust building process between banks and their clients. This component only concerns digital banking, including neobanks and e-banking, which is used by classical banks.

5.4 Paper 4: Melnyk V., Iermolenko O., Cordery C., "Unfolding crowd-based accountability of a charity fund during the war"[6]

This paper focuses on accountability of charity organizations provided in social media. The level of donations in Ukraine reached its peak after the full-scale war started in 2022. This increase especially related to individuals. Since the start of the full-scale war, Ukrainians have transferred 54.6 billion hryvnias for the needs of Ukraine's defence through charitable funds, which is many times more than the donations of private companies and banks (*New voice of Ukraine*, 2023). In addition,

[6] Submitted to *Financial Accountability and Management* (Status: Under review)

social media today has varied the way people communicate and has changed how businesses and governments communicate with people (Bukovina, 2016). Considering this fact, charity organizations actively use social media for communication with donors (Bellucci & Manetti, 2017). However, it is not clear how charity organizations could be accountable to the public in social media.

To fill in this gap, we investigated the social media platforms of one of the biggest Ukrainian charity funds, which provides military and humanitarian aid – Mister Benefactor charity foundation[7] (further – the Fund). Before the beginning of the full-scale invasion, this Fund had another mission and gathered donations for different purposes. The Fund was not presented in social media platforms and only had to report to the tax authorities each year. However, after 24th February 2022, the Fund changed its work and started to gather donations for military and humanitarian aid.

Analysis of the Fund's social media – Facebook and Instagram – shows how accountability changed during the course of one year. At first, the Fund presented disclosure of their purchases on social media in a very chaotic way. There was no reporting on their official website, and, as a consequence, the public started to ask questions on social media. After a big wave of criticism from the public, the Fund's communication team reconsidered their communication policy, and some improvements were seen. The Fund changed its method of accountability, making it more understandable.

The paper also emphasizes the importance of public figures (the role of celebrity) in communication with the public and increased levels of donations (Harris & Ruth, 2015). In addition, the findings show that, during crises, the accountability of charity organizations has to change, in order to receive more donations. Previous research discussed the role of accountability during disasters (Sargiacomo, 2015); however, these events did not have a longitudinal character, as we have in the case of war. This

[7] The Fund's name is anonymized

revealed another very important finding – the unfolding accountability process. This process is characterized by ongoing communication with the public by disclosing the results of the charity's work and by reaction from the public in social media. From a theoretical perspective, we contribute to the studies on accountability in charities by adding new insights into accountability regarding what, how and to whom (Cordery & Baskerville, 2011; Ebrahim, 2016), focused only on the social media crowd (Karunakaran et al., 2021).

6 DISCUSSION

This thesis studies the financial behaviour of people: specifically, how they manage their personal finance in a digital era in a transitional economy. The aim of each study is to check the influence of particular factors (cognitive and social environmental, according to SCT) on management of personal finance (which is a behavioural determinant, according to SCT) in the digital era.

The thesis defines digitalization as a part of the physical environment (Sun et al., 2020), which changes the social environmental and cognitive factors. This, in turn, influences the financial behaviour of people. From this perspective, digitalization plays a crucial role in this research by reshaping the approach to the factors which influence management of personal finance (Goyal et al., 2021; Koskelainen et al., 2023; Liu et al., 2022; Zhao & Zhang, 2021).

All empirical papers in the thesis discuss digital financial products and services and analyse different determinants which influence people's financial behaviour. Thus, with the help of SCT, the thesis explains the causation between social environmental and cognitive factors, on one side, and financial behaviour, on the other (Bandura, 1986, 1991, 1999a, 1999b, 2001b). The empirical papers focus on either cognitive or social environmental factors, which means that the influence of cognitive factors on management of personal finance is studied in the first empirical paper, while the remaining empirical papers show the impact of social environmental determinants.

6.1 Causation between studied factors and defined reciprocity

The thesis provides evidence that the model of reciprocal causation does not show equal strength among the factors, and that the factors in the model do not operate simultaneously, which is in line with SCT (Bandura, 1986, 1999a) and previous studies based on the causation model (Boateng et al., 2016; Phipps et al., 2013; Zhao & Zhang, 2021). The main finding is that social environment has more influence on the financial behaviour than cognitive determinants.

The cognitive determinant that was studied in the thesis is financial literacy. Paper 2 reveals that the digital environment changed the nature of financial products and services, which influenced financial literacy. In its turn, financial literacy could influence personal financial behaviour (how people use financial products and services), which was tested in the study. Previous research provided evidence for a strong significant relationship between financial literacy and the use of financial products and services (Ergün, 2018; Lusardi & Mitchell, 2014); however, there was not enough evidence in the digitalized context. The results of Paper 2 show an insignificant relationship between financial literacy and the use of digital financial products and services (cryptocurrencies, e-banking, e-wallets, etc.). Additionally, it can also be assumed that sometimes people use digital financial products without proper understanding of what they are and why they need them (Chen et al., 2014). In these cases, they are just influenced by other consumers of these products – their peers, colleagues, families or even random people (e.g., who can also use social media to share their experiences) (Salazar et al., 2013). In this case, social environment might be influential and should be studied in more depth, since cognitive factors such as financial literacy have no impact in the digitalized environment. Thus, financial literacy has no influence because there is a social aspect, which is enhanced by digitalization. This emphasizes that cognitive determinants have less influence than social environment on the financial behaviour of people.

Papers 3 and 4 further explore the significance of the social environment in the examined causation. It is shown that trust in financial products and financial institutions is a crucial social environmental determinant. Because of the increasing aspect of digital banking and social media, trust can be influenced by social approval (Carlos Fandos Roig et al., 2013) (Paper 3). From this perspective, trust in the financial institutions can be transferred through the social environment of individuals – from peers to peers. It has become more influential today, because it is relevant for people, especially for the youngest, to know that their friends, relatives, colleagues, etc. use the same financial institution (e.g., bank) and the same financial products/services

(Chen et al., 2014). In this way, a “new” trust is formed, which influences people’s intention to use financial products and services and manage their personal finance (in other words, their financial behaviour). And it can be assumed that the more people will use these products, the more trusted they will become, creating in this way a bidirectional causation between trust and the financial behaviour of people.

Additionally, social environment can be influenced by social media. The way financial institutions portray themselves on social media platforms can impact their interactions with prospective clients (Kietzmann et al., 2011). According to Bandura (1999a), people construct social environments and institutional systems via their generative endeavours. A shining example of this is the charity-giving behaviour of Ukrainians during the war (Paper 4). According to SCT, people assess the effectiveness of their thinking based on the outcomes produced by their actions and make any necessary adjustments accordingly (Bandura, 1999a), which is especially visible during the war. This is evidenced by the case of one Ukrainian charity organization, whose accountability was changed by the social media crowd. Due to the beginning of the full-scale invasion, charity organizations had to change approaches to their actions, to engage more donations (Van Steenburg et al., 2022) and reshape their accountability perspectives (Landi et al., 2022). Thus, charities started to actively use social media (Lim et al., 2021) to publicly disclose their results (Bellucci & Manetti, 2017; Landi et al., 2022). In this way, the nature of accountability took on a new meaning and moved online to social media, which is known as crowd-based accountability (Karunakaran et al., 2021; Saxton & Guo, 2011).

In addition, hypothetically, cognitive determinants can be included here to fully understand the interactive causation between behaviour and social environment (Bandura, 1999a). It could be hypothesized that people are encouraged to donate by their personal perceptions, such as emotions connected to the war, patriotism, trust in the charity, etc.

Bandura (1986, p. 29) highlights that "social environments provide an especially wide latitude for creating conditions that can have a reciprocal effect on one's own behaviour". The current study is in line with this and provides evidence defining reciprocity between social environmental determinants and people's behaviour. Thus, the reciprocal causation between social environmental determinants and financial behaviour was defined in the thesis by showing it in the example of the influence of trust (Paper 3) and crowd-based accountability (Paper 4) on people's financial behaviour, which, in turn, affected these social environmental determinants.

The influence of the studied determinants on the management of personal finance presented above is illustrated in Table 4.

	Environment (E)		**Cognitive (C)**	**Behaviour (B)** – *financial behaviour*	**Causation detected** *(according to SCT)*
	Physical (PE) *digitalization*	**Social (SE)**			
Case 1 (Paper 2)	Increasing aspect of digital products and services	Not implicitly studied, but it could be hypothesized that social environment is more influential in people's decision to use digital financial products	Financial literacy has no influence	People become more engaged in using digital financial products (cryptocurrencies, e-banking, e-wallets, etc.)	C≠>B – no causation
Case 2 (Paper 3)	Increasing aspect of digital banking and social media	Trust is influenced by social approval, which is gained via social media and peer effects	Not implicitly studied	People prefer to use digital banking instead of traditional banking	SE<=>B – reciprocal causation
Case 3 (Paper 4)	Increasing aspect of social media	Development of crowd-based accountability in the charity organization	Not implicitly studied, but it could be hypothesized that people are encouraged to donate by their personal perceptions (e.g., emotions connected to the war, patriotism, trust in the charity, etc.)	People donate more to charity organizations which are presented in social media	SE<=>B – reciprocal causation

Summary	The physical environment is fully digitalized	Social environment is changing because of the influence of physical environment and because of people’s behaviour	Cognitive factors are important but have less influence on people’s behaviour in a digitalized environment	Financial behaviour is changed because of digitalization and is reciprocally influenced by social environment	PE => SE<=>B – reciprocal causation

Table 4. *Summary of the thesis*

6.2 Digitalization as a “game changer” for personal finance management

With a digital impact on physical environment, it became easier to use financial products and services and share the experience with other people via social media (Bukovina, 2016). Prior studies have extensively examined alterations in people's financial behaviour resulting from digitalization (Koskelainen et al., 2023; Sun et al., 2020; Zhao & Zhang, 2021). The current study reveals the shifts occurring in the social environment due to the impact of digitalization. At the same time, the studied influence of cognitive (or personal) determinants on financial behaviour to manage personal finance appeared to be very low.

Based on the findings, cognitive factors did not have a significant impact on financial behaviour in the digital era. For example, the influence of financial literacy on people’s usage of digital financial products was not detected. Thus, it could be assumed that digitalization changes financial behaviour (e.g., to invest in new financial products) without changing financial literacy, questioning its significance for consumers of financial products and services (Paper 2).

Social environmental factors increase their relevance when digitalization strikes. This could be explained by the fact that, when digitalization arrives, people start to behave irrationally because of the social aspect, which increases because of access to social networks and peer effects (Chen et al., 2014). Thus, people create a new social environment which has a new influence on their behaviour concerning personal finance.

This new social environment is created because digitalization makes it easier to communicate about one's experience with financial products and services (Pousttchi & Dehnert, 2018). People could easily share their thoughts, e.g., via social media and change other people's behaviour by providing good or bad feedback. In this way, for example, trust in financial organizations (banks or charities) could be enhanced or weakened. Thus, people could choose digital banking because they are subject to social network-based trust (Paper 3) or they could make more donations to those charity organizations which provide good communication about their activities on social media (Paper 4).

Earlier research has already started to analyse the impact of technology on personal factors, environment and people's behaviour in the digitalized context (Sun et al., 2020); however, digitalization was not previously discussed as a main determinant of change for social environments and cognitive determinants in countries with transitional economies. The thesis states that there is a determinism in the study between digitalization, as a part of the physical environment, and the social environment; thus, the physical environment not only enables the social environment (Phipps et al., 2013) but also changes it.

Moreover, the increased role of digitalization in Ukraine and the revealed causations show that countries with transitional economies can dramatically modify the financial behaviour of their citizens by changing social environments and their perception of cognitive factors (such as financial literacy). From one point of view, such a rapid change helps countries with transitional economies to become more developed and increase their capacity; however, from another point of view, it brings additional risks, connected to cyber security, as mentioned in the introduction (Ch et al., 2020). In addition, the shift in social environment makes it easier to influence people's financial behaviour. This concerns social approval or social media, which are simple tools for influencing someone's opinion.

So, it can be concluded that digitalization in transitional economies leads to social determinants having a greater influence than cognitive factors on people's behaviour concerning the management of their personal finances. The social aspect becomes more important and influential in a digital era, which brings not only benefits but also new challenges. Although it has now become much easier for people to receive financial products and services and for financial institutions to provide these services, there are risks, such as low level of financial knowledge, high level of trust and increased influence of social media, which could lead people into a financial trap.

7 CONCLUSION

The current dissertation analyses how digitalization influences the management of personal finance in Ukraine. To fill this gap, the impact of cognitive and environmental factors on financial behaviour was studied. Digitalization was defined as a crucial determinant, which modifies the physical environment and, hence, impacts other determinants – cognitive and social environmental.

As the prevalence of digital financial products and services increased, the effectiveness of a cognitive factor, such as financial literacy, came into question in a digitalized environment. In addition, the nature of trust and accountability as social environmental factors was modified because of digitalization. The thesis defines several contributions, which can be addressed as thematic and contextual.

7.1 Thematic contribution

The thesis contributes to the topic of personal finance, describing how people manage their personal finance, with the help of the "reciprocal determinism" model of SCT (Bandura, 1986). Previous studies in economic and finance fields used SCT to explain the financial decision-making of individuals (She et al., 2023), internet-banking adoption (Boateng et al., 2016), customer experience with digital instruments (Nguyen et al., 2022), cryptocurrency investments (Zhao & Zhang, 2021), etc. This study adds to the previous ones by defining the causation between social environment and people's financial behaviour. Thus, the social aspect was defined and put in a main position in the current research, in terms of management of personal finance.

In addition, the thesis distinguishes between physical and social environments (Boateng et al., 2016; Phipps et al., 2013). Digitalization, as a part of the physical environment, changes financial behaviour. The thesis studies how this change happens and reveals that the social environment is going through a significant change. Although Bandura (1999a) argues that, to fully understand the causation between behaviour and social environment, cognitive determinants should be taken into account, the thesis defines cognitive factors as important but not as strong as social environment in relation to financial behaviour in a digital age. However, Bandura (1986) also argues that the power of causation between different determinants may vary. The thesis uses Bandura's argumentations and contributes to the field of personal finance and the behavioural finance school, by highlighting the increased influence of social environment regarding people's financial behaviour in a digitalized era. This is in line with previous research, which argues that, when making financial decisions, people become irrational, and this is even more obvious in a digitalized environment (Cao et al., 2020; Chen et al., 2014), since the social aspect increases.

The thesis also contributes to other topics in the field of personal finance, like financial literacy and relationship with financial institutions. The shift in nature of financial products and services questions the importance of financial literacy in a digital environment and brings the thought of measuring a new variable – digital financial literacy. In addition, an interesting finding of the thesis is defining the changing role of accountability in financial institutions (banks and charities) in a digital era and during the crisis (war), which had not been previously defined. Accountability is usually studied in management research and relates to the business environment; however, it is also important on a microlevel and for the nonprofit sector (Ebrahim, 2016). The connections between financial organizations and individuals as owners of financial resources is vital for the future development of their relationships and for understanding how these relationships could be improved. This, again, emphasizes the possible explanation of reciprocal causation from the triadic model of SCT.

7.2 Contextual contribution

Moreover, since the empirical context of the study is a country with a transitional economy, which is now in a war condition, the thesis also has a contextual contribution. The thesis contributes to the understanding of countries with transitional economies by examining extreme situations, such as war, and exploring the role of digitalization before and during the war.

Digitalization in countries with a transitional economy is a "game changer", which can alter the fate of the country. Before the digital era, humans were just consumers of financial products and services, but now people have the power to influence the environment very easily and modify "the rules of the game" (Koskelainen et al., 2023; Sun et al., 2020; Mamediieva & Moynihan, 2023).

In addition, in the context of human-made disasters, personal finance helps to provide mediating effects and support the country. Since the government cannot deal with the disaster on its own, people, with the help of personal finance, contribute to the country's development (Gedmintienė & Visockaitė, 2016). For example, people in Ukraine now donate to military and humanitarian aid, use digital banking and just continue to consume Ukrainian products, thus nourishing the country's economy.

7.3 Research implications

The following *research implications* were derived based on points mentioned in the thesis. The implication for theory is defined by emphasizing the increasing role of the social environment in the causation model of SCT when digitalization strikes. Digitalization, as a part of the physical environment, could be intimated by SCT and seen as a new conceptual framework for future studies (Sun et al., 2020).

Some implications are suggested for the educational field internationally. For example, courses on digital financial literacy should be considered by international institutions and governmental bodies, to provide citizens with good financial knowledge about digital financial products and services (Ergün, 2018; Koskelainen et al., 2023).

The thesis also suggests some implications for institutions and their policies, such as regulations for banks and charity organizations (on accountability), governmental programmes and policies concerning financial literacy and the activities of banks (or other financial institutions) (Klapper & Lusardi, 2020). The role of financial institutions is changing due to digitalization (Andreou & Anyfantaki, 2021). In this regard, the important role of accountability for financial institutions should be emphasized (Saxton & Guo, 2011). This concerns not only charity organizations but also other financial institutions, such as banks. Digital technology reshapes the previous understanding about accountability of financial institutions, since they now have many more options to be accountable to the public and even have a dialogue with them (Landi et al., 2022).

Additionally, the thesis provides some implications for practitioners. Managers of financial organizations should keep in mind that social influence could be more powerful than the influence from marketing strategies; thus, they should analyse more precisely how trust in their institution is being formed (Kim & Prabhakar, 2004). Charity organizations also should analyse how to enhance crowd-based accountability and control their official pages in social media (Karunakaran et al., 2021).

Considering its specific context, the implications for Ukraine should be mentioned separately. New regulations should be implemented for national financial institutions, taking into consideration the conditions of war (e.g., accountability policies for charities and banks, tax policies, public reporting availability). The government should also check the current regulations for assessing financial literacy and ensure that they evolve, considering the conditions of war.

In addition, the experience of Ukraine in dealing with human-made disasters could be implemented by other countries. The work and management of charity organizations could be taken on board by international NGOs (Non-governmental organizations) to enhance donations from the public. The regulation of financial institutions by the government and theirs active digitalization could be a good example, not only for countries in crisis but also for countries which are experiencing a shift to a digital environment.

7.4 Limitations

The main constraint of the PhD thesis is that it is divided into two periods: before and during the war. This brings the following limitations: basically, the results are presented in two different contexts; suggestions from empirical Papers 1 and 2 can be implemented by governments of other countries but no longer in Ukraine; results in the current introductory chapter are gathered and discussed together but remain divided and cannot be fully generalized.

Digitally active people are studied: young adults (Paper 2 and 3) and the public engaged in social media. However, it is interesting to look at people who do not use digital products and services. Probably, the majority of these people would be representatives of retirees, so it would be important to check their financial capabilities and how they manage personal finance in a digital era without “going digital”.

Concerning limitations in the chosen theory, the current research does not focus on self-efficacy characteristics, which are usually discussed by scholars within this theory.

7.5 Suggestions for future research

Future research into the management of personal finance could continue the discussion about the influence of digitalization on financial behaviour (not only in the context of countries with transitional economies). Digitalization can be studied not only as a factor of the physical environment (Boateng et al., 2016) but also as a new additional setting of SCT (Sun et al., 2020).

Moreover, future research could continue the discussion about SCT in the field of personal finance (Bin-Nashwan & Muneeza, 2023; Zhao & Zhang, 2021). There are plenty of possibilities regarding how to further study the reciprocal causality between cognitive, behavioural and environmental factors. The current study only focuses on a couple of determinants and discusses one-way connections, as well as reciprocity. Further studies could build arguments on causation reciprocity or just continue to analyse one-directional determinism between studied factors (Bandura, 1986). Furthermore, all the empirical studies concentrated on showing the impact on financial behaviour, whereas, according to SCT, behaviour could influence cognitive or environmental factors (Bandura, 1999a), which should be discussed by future research.

In addition, the topic of management of personal finance is relatively new for economic scholars (Goyal et al., 2021; Schuchardt et al., 2007) and could be developed from not only a financial but also a marketing perspective (Tufano, 2009) or psychological points of view (or even a combination of all mentioned fields). Thus, many additional factors and their influence on personal finance could be studied, such as personal (e.g., emotions, perception of particular events, psychological conditions, etc.) and environmental characteristics (influence of financial institutions, relationship with them, etc.), with the help of different theoretical approaches (Goyal et al., 2021).

Finally, the current study begins discussing the role of financial institutions' accountability in the context of management of personal finance. This topic will become one for even more discussion, since the number of human-made disasters is increasing. Thus, the suggestion for future research is to develop not only the study which was described in the thesis (crowd-based accountability of charity organizations (Karunakaran et al., 2021)), but also to go beyond the social media environment.

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9 APPENDIXES

9.1 Appendix A

One example to illustrate reciprocal determinism of SCT

By way of illustration, “process narrative” (Langley, 1999) can help to interpret SCT and its possible implication in the field of personal finance. Cognitive characteristics in combination with environmental processes influence the financial behaviour of individuals, which provides the opportunity to discover many examples of reciprocal determinism. So, let us consider an individual (entirely fictional), called Mister X, who has a stable monthly income (salary + some interest from investments) and regular monthly expenses, which are less than the income. SCT can help to explain what factors influence how Mister X manages his personal finance:

1. Behaviour: this includes how Mister X managed/manages/will manage his personal finance, i.e., how he organizes his savings and spendings and makes investment decisions.
2. Cognitive factors:
    a. Personal characteristics: Mister X is usually unsure about his decisions and is very dependent on other people’s opinions.
    b. Risk tolerance: Mister X has a low risk tolerance; he will never invest in high-risk activities, and he always has some money for a “rainy day”.
    c. Financial knowledge: Mister X has a high level of financial literacy, since he regularly reads books and newspapers and participates in online courses and discussions about the management of personal finance.
    d. Financial attitudes and beliefs: Mister X is very conservative about his finances and is a “long-term planner” regarding his budget.

3. Environment:
    a. General environmental conditions: Mister X is a citizen of a country with a transitional economy, which is now highly developing its digital potential. However, there are some risks connected to an unstable political situation and the relationship with a neighbouring country.
    b. Economic conditions: inflation rates are increasing quicker than Mister X expects, although his job stability is secured (Mister X works for an international company).
    c. Social influence: Mister X's family and friends have diverse financial attitudes and experience.

Considering the abovementioned facts, reciprocal determinism can be described as shown in Table 5.

Reciprocal determinism	**Story of Mister X**	**Similar evidence from previous studies**
<u>*Cognitive => behaviour*</u>	Mister X's low risk tolerance and good financial knowledge influence his decision to make regular periodical savings and to actively invest, although only in low-risk assets.	Zhao and Zhang (2021) *(influence of financial literacy on behaviour*)
<u>*Behaviour => cognitive*</u>	One day, Mister X decides to open an account in one of the country's biggest banks. Now he feels more secure in his future finance; thus, his action has influenced his financial beliefs.	She et al. (2023) (*influence of financial behaviour on financial well-being*)
<u>*Behaviour => environment*</u>	After a while, Mister X starts to use the online-banking services of the bank where he opened the account. He shares his experience in online-banking with his friends and influences their decisions to join the same online bank.	Phipps et al. (2013) (*behavioural changes influence outcomes*)
<u>*Environment => behaviour*</u>	Suddenly, war came to Mister X's country and changed his financial behaviour; now Mister X spends 10% of his monthly income on donations to help the country.	Phipps et al. (2013) (*discusses changes to behaviour because of the influence of non-human-made disasters (droughts)*) Johnstone and Hooper (2016) (*influence of environment on consumers' behaviour*)

<u>Environment => cognitive</u>	Moreover, the war changes the country's economic conditions; consequently, one of the biggest banks goes bankrupt and thus Mister X loses his deposit. This forces him to change his financial beliefs – now he cannot plan his budget for the future, since it is very uncertain.	Phipps et al. (2013) (*discuss changes to cognitive determinants because of the influence of non-human-made disasters (droughts)*) Johnstone and Hooper (2016) (*influence of environment on consumers' attitudes*)
<u>Cognitive => environment</u>	Since Mister X changed his beliefs, he can no longer trust the banking system and, thus, this influences the trust relationship between the banks and Mister X. In addition, he shared his experience on social media to inform his friends and warn them about making deposits in the banks.	She et al. (2023) (*people's attitudes are influenced by values presented in social media*)

***Table 5**. "Process narrative" of reciprocal determinism of SCT*

Part 2

RESEARCH PAPERS

Paper 3: Transforming the nature of trust between banks and young clients: from traditional to digital banking

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Transforming the nature of trust between banks and young clients: from traditional to digital banking

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Abstract

Purpose – This study aims to explore how the shift from traditional to digital banking transforms the nature of trust between banks and their younger clients (aged 18–35) from the perspective of bank employees.

Design/methodology/approach – Qualitative semi-structured interviews with representatives of Ukrainian classical banks and neobanks were conducted. The interviews were analysed using the theoretical approach of institution-based and social network-based trust to identify the key distinctions between the nature of trust in traditional and digital banking.

Findings – The employees of the banks reported that digitalization processes have helped to mitigate trust issues; as a result, their banks have not experienced any difficulties in this regard among young people. Furthermore, social networks, particularly social approval, were found to be significant factors for establishing trust in digital banking among young people.

Research limitations/implications – The results of this study could assist bank managers in adapting their strategies for cultivating trust among younger clients and aiding international law regulators and government institutions in preventing unintended circumstances in financial services. These contributions were shaped by the study's limitations, including its focus on only two concepts of trust building: institution-based and social network-based, as well as its specific Ukrainian context.

Originality/value – This study highlights social approval as a valuable constituent of the trust-building process that influences trust in institutions. Furthermore, while gaining social approval – particularly through digital platforms – can promote trust-building among young people, this "easy way" may have negative societal consequences by endorsing unscrupulous institutions.

Keywords Trust, Institutional trust, Neobanks, Digital banking, Social approval

Paper type Research paper

1. Introduction

Banks are an integral and indispensable part of the financial system, and trust is regarded as the most important factor in the relationship between them and their clients (Möllering, 2006). Historically, we have witnessed how trust in banking institutions has reflected people's financial behaviour. After the global financial crisis of 2007–2008, there was a total trust crisis that mostly influenced the financial sector (Hurley *et al.*, 2014). Financial markets and institutions, along with other related economic agents, lost people's trust and, consequently, many opportunities to grow (Buriak *et al.*, 2019). According to the Edelman Trust Barometer

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1. Introduction

Banks are an integral and indispensable part of the financial system, and trust is regarded as the most important factor in the relationship between them and their clients (Möllering, 2006). Historically, we have witnessed how trust in banking institutions has reflected people's financial behaviour. After the global financial crisis of 2007-2008, there was a total trust crisis that mostly influenced the financial sector (Hurley *et al.*, 2014). Financial markets and institutions, along with other related economic agents, lost people's trust and, consequently, many opportunities to grow (Buriak *et al.,* 2019). According to the Edelman Trust Barometer (Edelman, 2020), financial services have been one of the least trusted sectors globally, which makes building trust among actors in the banking sector crucial for their future development.

With the digitalization of traditional banking, the role of trust could also be transformed. The emergence of neobanks (according to BBVA Research (2016), also known as digital banks, online banks, Internet banks or virtual banks), has left classical banks[13] uncertain about how to maintain their clients' trust and remain competitive. Digital banking offers swift financial services, along with other convenient banking products which many young people show an interest in and prefer to traditional banking services (Ofori *et al.*, 2017).

However, it is not clear how digital technology transforms the nature of trust in banks' relationships with their younger clients. This article aims to describe how digitalization transforms the nature of trust in banking products and services. In this study, trust is defined as the relationships between people and financial institutions (banks) and is discussed from institutional and social points of view. Therefore, this article explores how the shift from traditional to digital banking transforms the nature

[13] This study uses the term "classical banks" to characterise all banks that have physical departments and can interact with their clients face-to-face, compared with neobanks.
The term "traditional banking" is used in the context of general banking institutions and is compared with "digital banking".

of trust between the banks and their younger clients from the perspective of bank employees.

To answer this question, the research focuses on traditional and digital banking in Ukraine and explores the ways banks build trust among their clients, specifically young adults aged between 18 and 35. Ukraine is a country whose financial system is in the developmental stage, and financial literacy is relatively low compared to established markets (OECD, 2021). Apart from its post-Soviet past and the global financial crisis of 2008, there have been other conditions that have challenged the Ukrainian economy and its financial institutions. In 2014-2015, Ukraine's economy went into a tailspin – according to the World Bank, the country's GDP (gross domestic product) declined by 6.8 percent in 2014 (World Bank, 2015). In addition, in 2014, the National Bank of Ukraine applied a floating exchange rate to the hryvnia instead of the usual fixed rate,[14] which caused the currency to lose 70 percent of its value against the US dollar. The banking system underwent a thorough check and was "cleansed" – resulting in more than 90 banks being declared insolvent. As a consequence, the level of trust in banks decreased significantly (Kupfer, 2018). Building trust in the digital era of banking in Ukraine has therefore become a main priority.

This study focuses on the banks' young clients. Banks divide their clients into age groups based on their different financial aims and needs. The youngest clients place more trust in new and progressive methods of investments, e.g., cryptocurrencies (Arnold, 2018). Young people are usually easygoing when it comes to innovations; they did not experience the loss of money, as their parents did (e.g., after the Soviet Union collapsed), and they are free to choose anything they want. So, it is unclear how banks build a relationship of trust among their youngest clients in the digital era.

This paper contributes to studies on trust in the banking sector. By comparing the responses of representatives of Ukrainian classical banks and neobanks regarding their

[14] According to official website of the National Bank of Ukraine.

perceptions concerning trust relationships with their younger clients, this study reveals the role of digitalization in transforming the nature of trust from institution-based to social network-based. In addition, current research contributes to the previous studies on trust by highlighting the role of social approval in the trust-building relationship between banks and their young clients. Social approval appears to be a new determinant in the studies of trust building. It is explained by the fact that clients start to experience feelings regarding the bank and its banking products and, therefore, suggest it to their friends, relatives and colleagues. Social approval is also built through the referral programmes, ease of use, cashback options, visible phone contacts in the mobile application and recommendation from clients.

This study is divided into several sections: literature review and theoretical background, methodology, findings, discussion and conclusion.

2. Literature review and theoretical background

2.1. Trust in traditional and digital banking: main characteristics and differences

Trust is a subject of interest for many researchers from different disciplines, including economics, psychology, sociology, philosophy, relationship marketing, etc. (Ahmed *et al.*, 2020). Consequently, it has been described in different ways and, as such, there is no single definition of it. Sekhon *et al.* (2014) defined trust as the belief of customers in an organization or its representatives. Hurley *et al.* (2014: 351) described trust as a "judgement of confident reliance", where a person is on one side as a trustor, and a person, group, organization or system with uncertainty and risk is on the other side as a trustee. Trust is easy to destroy but difficult to build and restore (Searle and Ball, 2004; Maguire and Phillips, 2008). This article does not equate trust with trustworthiness, confidence, faith and loyalty. Instead, it considers trust as a relationship which occurs between banks and their clients, highlighting actions employed by the trustees (banks) to provide it.

Trust is reported to be crucial for the proper functioning of financial systems and financial stability (Van Esterik-Plasmeijer and Van Raaij, 2017; Chang and Hung, 2018;

van der Cruijsen *et al.*, 2020). Where there are low levels of trust, consumers will not use financial services offered by financial institutions (Lachance and Tang, 2012). Van der Cruijsen *et al.* (2020) observed that the behaviour of financial institutions is one of the key drivers of trust in them and that practising prudence, providing quality services and maintaining financial stability can have a positive impact on trust. On the same note, Bachmann and Inkpen (2011) proposed that the following mechanisms could help to reduce risk and stimulate the process of building trust in inter-organizational relationships: legal regulation, reputation, certification and community norms, structures and procedures. In addition, important factors in the customer trust relationship are integrity, transparency, price fairness, satisfaction, the bank's image and regulations (Kidron, 2021).

Trust is the essence of banking. Currently, the banking sector is undergoing increasingly rapid changes, like consumers' lifestyles, creating a need for new banking concepts (Holmlund *et al.*, 2017). This is partly explained by the fact that almost all banks have started to offer digital products and services (Saal *et al.*, 2017; Chen *et al.,* 2017). This shift from traditional to digital banking is seen by both practitioners and researchers as a concern regarding trust (Van der Cruijsen *et al.*, 2020). They question the safety of clients and their cyber security while using digital banking products and services (Koskelainen *et al*., 2023; Alnemer, 2022).

This study defines traditional banking as an institution, which mainly builds trust with its clients by using institutional characteristics such as guarantees and beliefs. Digital banking, however, is defined as the services of e-banking, which are provided by classical banks (Internet banking, mobile banking, etc.) and neobanks (also known as digital banks or Internet-only banks). Studies on traditional banking highlight trust-related characteristics, such as: transparency (Ahmed *et al.*, 2020); client orientation (Van Esterik-Plasmeijer and van Raaij, 2017); legal regulation and reputation (Bachmann and Inkpen, 2011). Banking activities, however, are changing with the increased role of Fintech (Chen *et al.,* 2017). Fintech facilitates the utilization of both traditional and new financial products and services, providing customization and cost savings, thereby positively affecting customers' trust through the provision of comfortable and simple tech-based financial solutions (Saal *et al.*, 2017). The emergence of Fintech also brings certain risks, such as the possible abuse and deception of digital services, and there are concerns about data privacy and digital profiling (Koskelainen, *et al.*, 2023). This presents a challenge to current concepts of trust building in banks.

Some studies have analysed the factors that impact clients' trust in various banking products and technologies (Savchenko and Kovács, 2017). Pousttchi and Dehnert (2018) studied the influence of digitalization on consumer decision-making in retail banking and found that consumers strongly trust new challenges at the beginning, with a high level of enthusiasm. Berraies *et al.* (2017) explored the relationship of trust to mobile banking applications and found a positive correlation between mobile banking applications as predictors of e-trust, while Ofori *et al.* (2017) defined trust in Internet banking as a confidence that clients have in the bank as an institution. Thus, while some studies have investigated trust building in digital banking, literature comparing the trust-building process in traditional and digital banking systems remains limited.

2.2. The social aspect of trust in banking institutions

When discussing trust in digital banking, most research focuses on trust in technologies. However, social theories reconfigure the role of trust and look at social influence, word-of-mouth and social value as important characteristics that influence trust development. According to Kaabachi *et al.* (2019), social influence plays a significant role in establishing trust for Internet-only banks in France. They show the impact of social influence as an environmental cue and reputation as an institutional cue on trust in the Internet-only banks. Their findings about social influence are in line with those of Kim and Prabhakar (2004), who studied the impact of "word of mouth" on trust. Purwanto *et al.* (2020) also found a positive correlation between word of mouth and trust building. They emphasized the importance of banks' positive corporate image in the digital era due to the rapid information spread through social media and other digital tools.

Social value, as another social concept and a separate value dimension, shows the impact of people's motivation to choose a particular product (Roig *et al.*, 2013). It is based on an impression (Sweeney and Soutar, 2001), perception amongst others (Sanchez *et al.*, 2006), status and esteem (Varshneya and Das, 2017) and social approval (Sweeney and Soutar, 2001; Sanchez-Fernandez *et al*., 2009). Perceived value in the service context could be defined as a multidimensional construct. This includes the functional dimension and the affective dimension, which consist of the social and emotional aspects of an individual (Sweeney and Soutar, 2001). The affective dimension reflects the emotions and feelings induced by products or services. Consequently, the affective dimension is formed by the emotional and social dimensions which relate to social approval (Roig *et al.,* 2013). From the organizational perspective, social approval concerns the more intuitive and affective perceptions which are inherent in social evaluations and is a "perception of general affinity toward an organization" (Bundy and Pfarrer, 2015: 347). As such, social approval is an important and underestimated factor in trusting relationships. This study investigates the role of social approval in trust building between banks and their younger clients.

2.3. Generational and geographic impact on trust in banking

According to Fungacova *et al.* (2019), people become less trusting with age, meaning that young people have higher trust in banks. In contrast, Moin *et al.* (2017) revealed that people aged 35 years and older have significantly more trust in financial institutions than others. However, considering the fact that young people are more loyal to digital technologies and more open to innovations, the level of trust in financial services could change. For example, Thusi and Maduku (2020) suggested that millennials are more likely to use a mobile banking app if they believe in the benefit of this technology in their banking activity. Berraies *et al.* (2017) also emphasized this difference between generations and digital banking, stating that millennials use mobile banking applications to obtain a stronger social identity. In addition, Windasari *et al.* (2022) argue that young people aged 17-35 will more probably use digital banking because of ease of use and social influence.

There are also geographical differences in the perception of trust, for example between Western Europe and East-Central Europe. For people from East-Central Europe, the stronger predictors of trust are income status and personal evaluation of their country's economic performance (Medve-Balint and Boda, 2014). As an East-Central European country, Ukraine has a low level of trust in the banking system, which was evidenced by previous research (Stix, 2013; Savchenko and Kovács, 2017). However, the digitalization of banks offers a new perspective on the nature of trust, which relies on institutions and social networks. It is therefore crucial to uncover how the digitalization of banking systems is affecting trust in banks, through the concepts of institution-based and social network-based trust.

2.4. Institution-based and social network-based trust

Institution-based trust is an expectation that individuals place on a particular institution to produce positive outcomes (Levi and Stoker, 2000). In other words, one's beliefs in some institutional structures will enable trusting relationships between these parties. According to McKnight *et al.* (1998), institution-based trust consists of situational normality belief and structural assurance (regulations, guarantees and legal recourse), which influence trust building. Möllering (2006) suggested that trust in institutions should depend on visible functioning controls and representative performances (experts who represent the system/institution and share the experience).

Institution-based trust gained more recognition after the financial crisis of 2008, as it underscored the importance of trust in financial institutions for financial stability (van der Cruijsen *et al.*, 2020). Kim and Prabhakar (2004), who studied the relationship between trust and the expansion of Internet banking, found that, in addition to institution-based trust, trust could be transferred from one individual to another, which is explained by social network theory (aka word-of-mouth referrals). Social network theory focuses on how an individual's behaviour is shaped by their engagement in social relations. Individuals' behaviours are not independent, they are affected by other actors related to them (Granovetter, 1985). Considering this, social influence could also be analysed as a social network process (Friedkin, 1991). The core of the social influence paradigm is that "the authority of the social group influences the behaviour of group members" (Rashotte, 2007: 228). Social influence appears when a person's behaviour is affected by his/her surroundings (Qin *et al*., 2011). With the development of digital tools in the financial market, social influence has become a pertinent topic in research. For example, recent studies discuss the effect of social influence on the trust in digital banking and reveal a positive relationship (Arruda Filho *et al.,* 2022; Kaabachi *et al.*, 2019; Chaouali *et al.,* 2016).

The theoretical framework of the study illustrated in Figure 1 is based on the studies of Kim and Prabhakar (2004), McKnight *et al.* (1998) and Granovetter (1985), who have discussed trust in institutions and social networks. This article compares these two trust-building approaches – institution-based and social network – in the banking industry during digitalization processes, recognizing the multifaceted nature of trust and the need for scientific analysis. Additionally, it introduces "social approval" as an underexplored variable in relation to trust, with word-of-mouth referrals and social influence hypothesized to drive social approval.

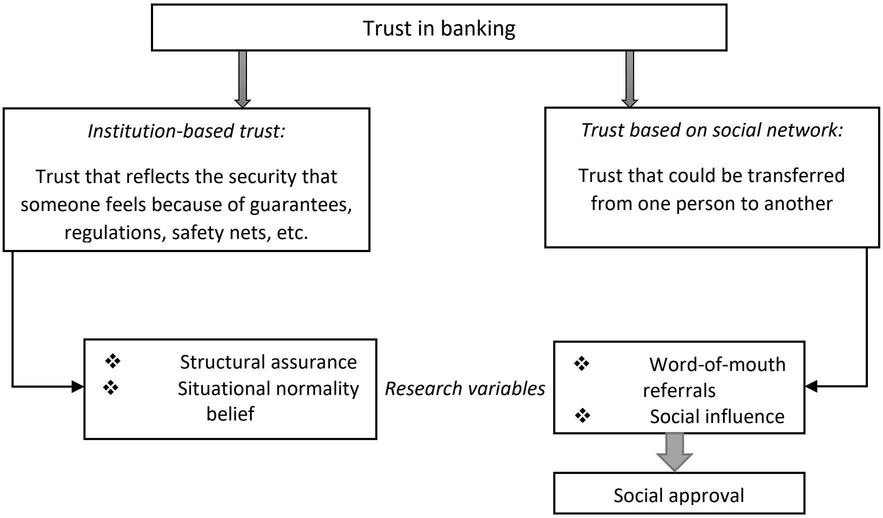

Figure 1. *Theoretical concept of the study*
Source: Created by author based on the studies of Kim and Prabhakar (2004), McKnight et al. (1998) and Granovetter (1985)

This paper focuses on two approaches to trust: institution-based and social network-based, considering its multifaceted nature and the need for scientific explanation and comparison of trust building in banking under digitalization processes.

3. Methodology

3.1. Research design

This research is conducted among bank employees, who discuss trust building between their bank and the bank's clients (young people aged between 18 and 35). Commercial Ukrainian banks are used as the units of analysis, and the case study design is based on multiple cases. In the current study, banks are real-life cases, which are described within certain parameters (Cresswell and Poth, 2013). Multiple sources of information are used: in-depth semi-structured interviews with bank representatives, financial and managerial reports, bank websites and news. The findings are then compared across these cases, and propositions are made based on varied empirical evidence (Eisenhardt and Graebner, 2007).

3.2. Case selection

In May 2021, there were 73 active banks in Ukraine, according to the official website of the National Bank of Ukraine. Neobanks are not included in the official statistics, as they are not separate financial institutions but a form of collaboration between classical banks and IT companies specializing in innovations. Subsequently, all neobanks in Ukraine work in cooperation with existing banks. This is the only possible option for their activities, since it would be difficult for neobanks to fulfil all banking requirements (Chernyavskyi and Maksimenko, 2020).

To provide contextual variety (Cresswell and Poth, 2013), several cases were selected for analysis from different bank categories in Ukraine, including the private sector, foreign sector and neobanks. The selection criteria were as follows:

1) the bank deals with customers (retail banking)
2) there are no barriers to gaining access to the managerial departments of the bank
3) the financial and managerial reports are open access
4) the bank is actively developing and proposing a wide range of products to their customers

In addition, in the case of classical banks, case selection was among those which are actively expanding their digital products and services and offer online banking. Following initial contacts with the banks via email and phone calls, representatives from four banks agreed to participate in interviews, constituting the four cases analysed in this study. To protect the anonymity of the banks and interviewees, the following codes were used for the banks: A, B, C, D; and for the interviewees: A1, A2, A3, B1, B2, C1, D1, D2.

3.3. Data collection

The data-collection strategy was flexible and emergent, as information was gathered from a variety of primary and secondary data sources (Gioia *et al.*, 2013). Data were collected from June to August 2021. To ensure the validity and completeness of the data, the study adhered to data collection principles outlined by Cresswell and Poth (2013), which involved using various sources, establishing a case study database and preserving the chain of evidence.

3.3.1. Interviews

Interviews were conducted with bank employees to explore the activities, main challenges and opportunities regarding their young clients. The interviewees included heads of bank departments, representatives of technical support services, specialists in specific services, and managers, who worked both directly and indirectly with individual clients. A detailed overview of the participants is presented in Table 1, Appendix 1.

The interview guide was divided into three topics and several sub-topics, including perceived level of trust, dealing with trust issues, and results achieved. Prior to the interviews, all the interviewees were provided with basic information about the study and its focus on young adults from 18 to 35 years of age.

All interviews were conducted in the Russian and Ukrainian languages and then translated into English for further analysis. Three interviews were conducted over Zoom, one over a telephone call, and the rest in person. Interviews ranged from 30 to 60 minutes, with the exception of the phone call, which lasted 15 minutes. All interviews were recorded, transcribed, and confirmed by interviewees. During the telephone call, notes were taken.

3.3.2. Secondary data

Secondary data were gathered from different sources for the purpose of triangulation (Lather, 1991; Cresswell and Poth, 2013). This included reports from banks' websites. Financial and managerial reports were used in the data analysis. All official national websites were used to check the validity of interviewees' responses (e.g., official website of the National Bank of Ukraine and Ministry of Finance), because some of them referred to their bank rankings. News articles were used to strengthen general information. Moreover, banks' official social media pages, such as YouTube and Instagram, were searched for content showcasing their current products, benefits and tariffs.

3.4. Data analysis

The first stage in data analysis was to write narrative descriptions of each case, based on the gathered data. Bank employees verified the case descriptions of their respective banks as part of a validity check (Cresswell and Poth, 2013). Next, empirical data were carefully examined, using inductive analysis. The interview transcripts were coded on NVivo. Finally, thematic analysis was used to structure the primary and secondary data, dividing them into two parts: the first examined banks' perception of trust and the modern young client, while the second explored trust in traditional and digital banking, using institution-based and social network-based trust concepts. First and second-order coding were used in the latter.

4. Findings

4.1. The significance of digitalization in building trust within banks in the Ukrainian context

After the Soviet Union's collapse, Ukraine had to rebuild its financial system. The 1990s were tough for many Ukrainians who lost money saved in "books" (saving accounts) during the Soviet period. During Ukraine's 30 years of independence, the financial system has faced turbulence, due to global crises and national unrest. In addition to the shock of the 2008 financial crisis to the banking system, in 2014-2015, the National Bank of Ukraine withdrew 54 banks from the market in just over six months. For comparison, during the period 1998-2013 (15 years), 34 insolvent banks were withdrawn from the market (Forinsurer, 2021). Before 2014, the banking supervision system in Ukraine had struggled from either failure to comply with relevant regulatory requirements or functioning as part of questionable financial schemes. However, following the crises of 2014-2015, it has been streamlined and improved.

In addition, digitalization is rapidly changing banking practices in Ukraine. Eight out of ten payment card transactions are non-cash; consequently, to maintain their clients' trust, Ukrainian banks are incorporating trying digitalization principles in their strategies. In addition, Internet banks without physical branch networks (Kaabachi *et al.*, 2017; Yoon and Lim, 2020), so-called neobanks, are gaining popularity. Neobanks in Ukraine depend on classical banks for their operations, due to the lack of legislative initiatives that license and regulate them as distinct institutions (Erkes *et al.*, 2019). This is one of the biggest barriers impeding the development of neobanks. Overall, digital banking in Ukraine could be divided into neobanks and e-banking provided by classical banks.

According to Savchenko and Kovács (2017), in general clients have a low level of trust in Ukrainian banks. According to the Razumkov Centre, in 2020, the level of trust in the National Bank of Ukraine, as well as in commercial banks, was very low. However, the findings from this study suggest that trust is not a problem among younger clients of the banks. The disparity in results can be attributed to the focus on young clients (18-35) as a specific banking demographic and the changing perception of trust caused by the rapid digitalization of the banking sector.

4.2. The portrait of a typical young adult client and the perception of trust from the perspective of Ukrainian bank employees

All the interviewees agreed that historical factors influenced Ukrainians' hesitancy and mistrust regarding the banking system and other financial institutions. Most of them described the Soviet Union's collapse as a turning point in the widespread mistrust in the banking system. The 2008 financial crisis and instability in Ukraine during 2014-2015 further challenged trust in the banking system. However, since the current research focuses on the younger generation, who did not fully experience these events, the interviewees did not view low trust among this client group as a problem for their banks. They believed that younger clients have a different perspective from that of the older ones.

Interviewee 2D highlighted that people have different priorities according to their age. The first question that young people usually ask bank employees is whether the bank has a mobile application with a banking card. According to almost all interviewees, young people aged between 18 and 35 show the most trust in banking products today. This could also be called “blind trust” because younger generations did not experience the events their parents and grandparents did and therefore did not experience financial loss in the same way. Hence, the level of trust and its perception can depend not only on age but also on previous experience.

Younger clients prefer innovative banking products and services that are easy to understand and use. To be able to offer such products and services, banks should be actively engaged in digital activities. Younger generations are also more impulsive and emotional than previous generations (according to interviewees 1A, 3A, 1B, 1C); therefore, they need an emotional context for the products they are using. Interviewee 1C explained that younger clients need a new presentation of banking products and services, as they do not believe in the ideology promoted by classical banks. Moreover, young people are usually easygoing in choosing a bank. Interviewee 1D elaborates this:

> First of all, young people choose a bank not exactly according to the criterion of reliability but according to the criterion of convenience, according to the criterion of simplicity and according to the criterion of where their friends and acquaintances are served.

Interviewees 1B and 2B did not see trust problems in Bank B, firstly, because of constant organic growth and the extension of the client database. Mistrust was not a problem for Bank C either. The bank team sees it as a task, which they should solve and establish contact with their clients. Interviewees from Bank A also agreed that their bank had not experienced problems with trust, due to its stability, reliability and track record of withstanding all banking system crises. Interviewees 1D and 2D confirmed that Bank D did not experience problems with trust either, especially among young people, as a result of the bank's digital services.

4.3. The role of digitalization in shifting trust from institutions to social approval

As mentioned earlier, the interviewees from the four banks analysed emphasized the importance of trust for their respective banks, while stating that there were no issues with trust between their banks and younger clients. This underscores the importance of trust building in these banks. According to the interviews, digitalization is a key component of today's banking activities, and it has a significant influence on the trust relationship between banks and their younger clients. As a result, the main finding of this study is that the nature of trust among younger clients is being transformed.

4.3.1. Institutions as a basis for trust in traditional banking

Institution-based trust in traditional banking is presented by two main variables: structural assurance and situational normality belief. These are illustrated by the data.

According to interviewees A1, A2, A3, D1 and D2, the main characteristics of structural assurance were: trust in the whole banking system, abiding to the law and regulations, cooperation with businesses, cooperation with government and guarantees. Banking systems are often homogeneous because, to stay competitive, banks usually offer similar products and services. Additionally, to be allowed to offer these, banks are obliged to follow rules and regulations that apply to the entire banking system. From this perspective, institution-based trust is crucial for a trust-building relationship between banks and their clients.

Interviewee 1D explained that the period of total mistrust in the banking system is over, and young clients now have more confidence in the banking system as a whole. Guarantees are an important component of institution-based trust. Interviewees A1, A2, A3, D1 and D2 pointed out that the Deposit Guarantee Fund plays a big role in the trust building process:

> The main thing is that there is a Deposit Guarantee Fund at the legislative level, which allows you to trust more... (Interviewee 3A)

Another important contributor to trust in classical banks is their cooperation with government and businesses. These are programmes connected to mortgages and salaries. Interviewee 1A emphasized the relevance of cooperation with the government in mortgage programmes. As for cooperation with businesses, Banks A and D offer bank accounts to employees of partner firms, increasing trust through employee loyalty.

As for situational normality belief, the interviews noted the following characteristics: in-person communication with clients, rankings, reliability and stability, transparency and accountability. Respondents highlighted the importance of their individual characteristics, such as transparency and accountability, as well as reliability and stability, in trust building. For example:

> …if a bank is profitable, this is the trust from customers, this is the joy for stakeholders (…) Clients also look at the financial performance of banks (…) This, by the way, also affects customers' trust. (Interviewee 3A)

> If the market allows you to earn and share a part of the profit with clients – yes, we will share, and this will have an effect, including on their trust. (Interviewee 1D)

Despite the fact that classical banks are shifting towards digitalization, they still recognize the value of face-to-face communication with clients. This is important because:

> It is clear that in the mobile application you can see the tariffs, etc., but when you put the same questions in-person, it is much more comfortable and convenient. (Interviewee 2D)

Finally, rankings were mentioned by interviewees from classical banks as very important figures. Interviewee 2D wished for high ratings in each category, while interviewee 2A said that their bank does not organize marketing aimed at Forex, as they expect individuals to find them by their Internet rankings. Consequently, classical banks (A and D) appear to prioritize their official rankings as an important component in forming institution-based trust.

4.3.2. Social approval as a social component of trust in digital banking

Digital banking combines neobanks and e-banking, a feature of classical banks. Neobanks, a relatively new type of organization in Ukraine, differ from classical banks in that they do not have a history and are formed through the cooperation of classical banks with FinTech companies. As licensed neobanks operate under classical banks, issues related to financial stability and transparency fall under their responsibility. Additionally, neobanks do not prioritize in-person communication with their clients.

This section elaborates how digitalization processes' development of e-banking has impacted the trust relationship in both neobanks and classical banks. To provide the same products and services as neobanks, classical banks use Internet banking and mobile banking. This changes their position concerning trust building and moves them onto the same path as that of their digital rivals. According to the interviewees, the feature which really influences the process of trust building in the case of digital banking is social approval. It changes previous perceptions of banking services, making them more distanced and dependent on public opinion. The data illustrate how digital technology used by banks influences their products' and services' social approval:

> … the main criterion of trust in the bank is social approval, the social component. (Interviewee 2B)

Such social approval is characterized by the following points: recommendation from clients, cashback, ease of use, feelings and emotions towards the bank, phone contacts in the mobile app, and referral programme. Interviewee 2B is convinced that all these factors are aspects of trust in their bank:

> I believe that the key aspects of trust in our product are a clear interface and clear tariffs, recommendation from friends and social approval...

His colleague (interviewee 1B) also described the power of referral programmes in trust building. Through this mechanism, banks convince their clients to make recommendations to their friends. He also observed that, when someone recommends the bank to a friend, it creates a higher level of trust and promotes positive feelings towards the bank’s products. Other interviewees thought similarly. Interviewee 2D mentioned that many clients came to them because of recommendations from a friend, colleague, classmate, etc.

In addition, the user-friendliness of the products appeals to young people and encourages them to share their opinion with their friends:

> The plastic card is physically losing its relevance. Therefore, our first main advantage is the convenience of logging in and using the product. (Interviewee 1C)

> And in the mobile application, at the moment, you can do everything: order a card, chat, find out, ask questions, pay for all services for free; you don't need to visit physical departments. (Interviewee 1D)

Cashback is one of the advantages of using digital banking and one of the important characteristics of social approval:

> … you get cashback, because now every bank probably has cashback; well, that's what young people are interested in. (Interviewee 1A)

Interviewees 1C and 2B argue that young adults react more emotionally than rationally; therefore, feelings and emotions regarding the bank play an important role in trust building. Interviewees A1 and A2 confirm this point of view, adding that emotions are also associated with risk; therefore, young people are also attracted to the service of Forex in digital banking.

According to interviewee 2B, it is important for social approval that the client can see his/her phone contacts in the bank's mobile application. This gives him/her one more assurance that his/her colleagues, friends or family members use and approve of the bank. This builds trust.

Social approval, therefore, could be characterized as a tool used by the banks to attract new clients and build trust. Based on these different factors, the nature of trust is transformed from institution-based to social-based due to the development of digital banking, presented by neobanks and e-banking.

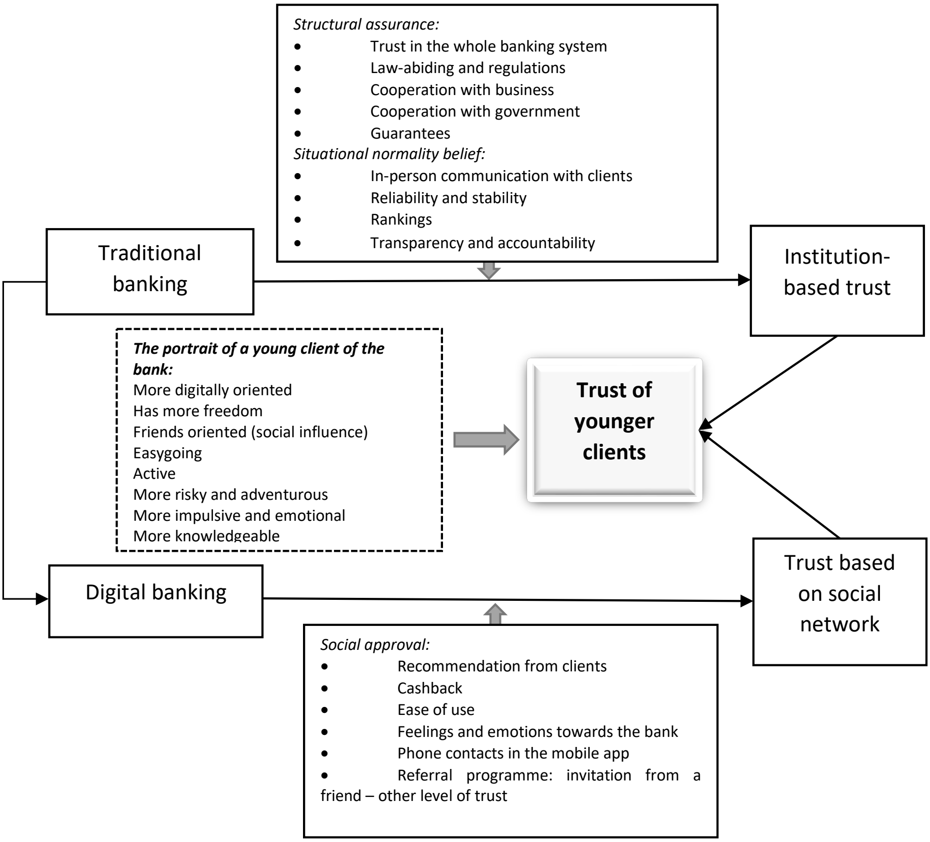

***Figure 2**. The model based on empirical findings*
Source: Created by author

Figure 2 offers an overview of the study's findings. It shows how the shift from classical to digital banking transforms the nature of trust among younger clients from the perspective of bank employees. The characteristics of young clients explain the necessity of this shift. Digital banking in this figure combines neobanks and e-banking, which is presented in classical banks.

5. Discussion

New challenges and opportunities for trust building in banking

The empirical data analysis offers several insights into understanding the trust relationship between banks and their younger clients from the perspective of bank employees in Ukraine. According to the data, younger clients of the banks do not have trust issues, despite previous studies presenting low levels of trust in banks in Ukraine (Savchenko and Kovács, 2017; Stix, 2013). The findings also contradict other studies about lower levels of trust among younger clients compared to those over 35 (Moin *et al.*, 2017). They are, however, in line with other studies' findings that show that young people are more loyal to the digital products of banks, such as mobile and Internet banking (Thusi and Maduku, 2020; Berraies *et al.*, 2017).

Trust based on institutions vs social approval

The perspectives of the bank employees interviewed also provide insights into how digitalization is transforming the nature of trust, using traditional and digital banking as examples. Previous researchers highlight the importance of digitalization in the process of trust building (Pousttchi and Dehnert, 2018; Berraies *et al.*, 2017; Saal *et al.,* 2017). The current study indicates the important distinguishing characteristics of trust building in traditional and digital banking. Classical banks pay attention to the importance of transparency, accountability, reliability and stability in trust building, which is in line with previous studies of trust in retail banking (Van der Cruijsen *et al.*, 2020; Van Staveren, 2017). In addition, the results also emphasize the importance of structural assurance variables (guarantees, cooperation with government and businesses, etc.), which are supported by Kim *et al.* (2009).

However, as traditional banking is shifting to digital banking – represented by e-banking and neobanks, new approaches to trust building need to be considered. According to the interviewees, Internet and mobile banking are changing the perception of trust among customers of classical banks, by making products and services easier to use. These findings are consistent with previous studies concerning

Internet banking (Ofori *et al.*, 2017). Neobanks offer only digital banking products and build trust through the ease and simplicity of their offerings, similar to e-banking.

Furthermore, the study emphasizes the impact of loyalty programmes and friends' recommendations on trust building in digital banking as part of social approval. Although previous researchers also found the social aspect important in the trust building research, they do not include it in the trust-building process (Roig *et al.*, 2013; Wang *et al.*, 2013; Kaabachi *et al.*, 2019). Moreover, they concentrated on the digital rather than the social effect, which Internet-only banks use to build trust (Kaabachi *et al.*, 2017; Nienaber *et al.*, 2014). The current research reveals social approval to have become a significant factor, which transforms the nature of trust in digital banking, according to the views of bank employees.

Social approval in the literature is closely related to the customer and social value. Customer value includes the affective dimension, which reflects the emotions and feelings caused by products (Sweeney and Soutar, 2001). This is formed by the emotional and social dimension and relates to social approval (Roig *et al*., 2013). Social approval is a basis for social value and is a perception of affinity with the organization (Bundy and Pfarrer, 2015). In the current study, social approval was found to be an important component of the ways in which banks build trust. This contributes to literature on trust and its connection to social theories. Moreover, this highlights the significance of social approval in organizational and management studies.

6. Conclusion

The current research provides a significant contribution to the concept that digitalization changes the nature of trust relationships between banks and their young clients. This concerns not only neobanks but also classical banks offering e-banking products and services. Incorporating social network-based trust in the trust-building process does not replace institution-based trust but, rather, adds new insights to it (Kim and Prabhakar, 2004). From a theoretical perspective, this study distinguishes two faces of trust – institution-based and social network-based. It emphasizes the importance of social networks for building trust and the relationships which are formed inside these networks, such as social approval. From a practical point of view, distinguishing between the two trust-building concepts in banks can enhance management practices and aid in decision-making and communication with clients.

The case of Ukrainian banks is not unique, especially when it concerns the digitalization of banking. All Ukrainian banks use international experience to apply innovations inside their organizations (Saal *et al.,* 2017). This means that the results of the study are not only relevant to Ukraine but can also be used by banking institutions from other countries using digital technologies.

Thus, the implications of these findings are important globally for governmental institutions and law-regulators to prevent some unintended conditions (e.g., financial frauds). The concept of social approval brings some challenges in trust building among bank practitioners. This means that nowadays, to build trust among young people, it is enough to achieve approval in society. To prevent negative consequences of building trust in such an "easy way", policymakers and other governmental institutions should think about regulations in the banking sector and educational programmes among young people to develop their critical thinking and to protect them from the influence of their social network. The results are also useful for bank managers who could alter their strategies concerning trust relationships with their young clients. This concerns, for example, marketing strategies, direct work with clients and communication strategies.

Future research could depart from this study in multiple ways. First, studies could compare trust in traditional and digital banking from the clients' perspectives. This could be done with the help of interviews (qualitative research), as well as surveys (quantitative research). The results of such studies could confirm the current research or bias the results and raise new questions regarding the different views of banks and their clients. Second, social approval could be studied as a phenomenon in the digital era, when it can be easily gained or destroyed, presenting a new area for future research and potential risks. Third, research could look at other countries, paying attention to their specific features: history, economic and political situation, general financial well-being of the population, and the official level of trust. Fourth, similar studies could be carried out with elderly people. This could also be an interesting case for Ukraine, because of all the historical events experienced by older generations, as previously mentioned. Moreover, age is also important in relation to the use of digital technologies. It is obvious that, in the case of elderly people, the results would differ.

The research findings have several limitations. First, the interviews were structured to focus on trust relationships between banks and their younger clients. In this context, future studies concentrating on all ages or elderly people would help to compare the results. The second limitation concerns the fact that only bank employees' perspectives were included. This objective of this strategy was to look at the question of trust from inside the banks. Future studies may focus on the environment "outside the bank" by asking the banks' young clients about their attitude and their perception of trust, through surveys or interviews. Lastly, this study only investigated two approaches to trust building – institution-based and social network-based. Other approaches to defining trust could be discussed in future research.

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Appendixes

Appendix 1. Table 1. *Banks and Interviewees' characteristics*

Name of bank	Type	Interviewees	Position	Date of interview
Bank A	Classical private sector bank with branches around the country	A1	Branch office manager in Kyiv	15/06/2021
		A2	Forex specialist	16/06/2021
		A3	Head of sales support	24/06/2021
Bank B	Neobank without any branches	B1	Social network monitoring specialist	18/06/2021
		B2	Chief marketing officer	23/06/2021
Bank C	Neobank with specific trend without any branches	C1	Director of the development of the bank	08/07/2021
Bank D	Classical foreign bank with branches around the country	D1	Retail business manager	30/07/2021
		D2	Branch office manager in Kyiv	16/09/2021

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Digital Innovations for the Circular Economy

Management of personal finance is a relatively new research topic. It has become increasingly significant and widely discussed, especially as digitalization is fundamentally reshaping every aspect of people's daily lives, including consumption of financial products and services, transforming the financial behaviour of individuals, as well as their social surroundings. As the use of digitalization can have both positive and negative effects on individuals' finance, there is a need for more research to define the actual impacts of digitalization on personal finance. The empirical context of the study is Ukraine, which has been increasing its digital development for the last decade – something that has proved to be particularly crucial for the country's resilience during the war. Thus, this thesis explores how digitalization influences management of personal finance in the context of a transitional economy.

The thesis comprises a literature review and three empirical studies that examine three aspects of the personal finance field: financial literacy (1), trust (2) and crowd-based accountability (3). Each empirical study focuses on different aspects of personal finance management, which are synthesised in this PhD thesis by using Bandura's (1986) social cognitive theory and its concept of "reciprocal causation".

The findings show that digitalization modifies the influence of cognitive and social environmental determinants on the financial behaviour of people. During increased digitalization, financial literacy, as the cognitive determinant, appears to play a less prominent role in personal financial behaviour, compared to social environmental determinants, i.e., trust based on social approval and crowd-based accountability. Therefore, the thesis makes several contributions. First, digitalization primarily impacts personal financial behaviour via social factors rather than cognitive factors. This raises a concern, as, when purchasing digital financial products, social ties are prioritized over financial knowledge. Additionally, in a country with a transitional economy, digitalization can become a "game changer" in improving personal financial behaviour and, consequently, boosting the economy. As the case of Ukraine shows, digitalization can coordinate the financial behaviour of individuals, contributing to the enrichment of the country's finances during the war.

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