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Digital Financial Literacy and Financial Behavior

Guangming Song[1], Manuelita G. Valencia[2]

[1]Student, Graduate School, Angeles University Foundation
[2]Professor, Graduate School, Angeles University Foundation

Abstract
Digital finance has made inclusive financial services accessible across time and space, encompassing mobile payments, financing, investment, and information intermediation. It has transcended the limitations of traditional finance, which relied on physical locations, by lowering transaction costs, mitigating information asymmetry, and introducing innovative risk control models. (Huang Y., et al., 2018; Wang X. H., et al., 2020). At the same time, according to relevant research results, residents' financial literacy, especially their digital financial literacy, plays a crucial role in their financial risk prevention capabilities and the security of the country's overall financial consumption environment (Fan C.Y., 2021). Drawing on a comprehensive analysis of how digital financial literacy affects residents' financial behavior, this paper presents its recommendations for enhancing digital financial literacy among residents. There are limitations in current research on how to improve residents' digital financial literacy. The possible research can be carried out in-depth and practical research on consumer financial attitudes and behavior characteristics in the digital environment, assessment scales of digital financial literacy, and innovation in digital financial education.

Keywords: Digital financial literacy, Digital finance, Financial behavior, Financial risk control

1. Introduction

Digital finance has transcended the limitations of traditional finance by lowering transaction costs, mitigating information asymmetry, and introducing innovative risk control models, which has led to inclusive financial services accessible across time and space(Huang Y., et al., 2018; Wang X. H., et al., 2020). Today's academic community is focusing its research on how to optimize the function of digital finance.

Digital financial literacy is the foundation for people to understand the new rules of digital financial market operation, use financial technology proficiently, and then cultivate financial skills and improve financial capabilities in the digital age. Additionally, it serves as a crucial metric for assessing the advancement of digital inclusive finance on a micro level (French. D., et al., 2020).In the process of developing digital finance, some of the original operating rules have changed to a certain extent. For example, the physical distance between financial institutions and customers has been replaced by "online distance" (Chen S., et al., 2021). Additionally, as revealed by Lyons A. C., et al.(2021), the features of digital financial products vary significantly from those of traditional financial products. Consumers also need to consciously improve their awareness and abilities in the face of financial digital transformation. Therefore, the definition and indicators of traditional financial literacy are no longer sufficient to include the particularities of consumers facing new financial services in the digital environment, nor can they reflect consumers' financial behavior and decision-making ability in the digital age. In this context, digital literacy(DL) and financial literacy(FL) are combined to form digital financial literacy (DFL) that adapts to the development of the current era. In the digital age, the study of digital financial literacy will inevitably become a new proposition in the field of financial literacy as financial literacy plays an increasingly significant part in daily economic decision-making (Goyal K., et al., 2021).

With enough knowledge of digital finance, the possibility of using it is higher. Thus, it is important that certain relevant stimuli should be looked into to affect one's financial behavior. Financial behavior encompasses the management of an individual's savings, spending, and budgeting activities, facilitated by the use of information and communication technology. With the continued progress of technology, digital finance is being utilized in individual's savings, shopping, and budgeting activities. Financial behavior pertains to how individuals manage their money, including activities related to savings, credit, cash handling, etc. (Goyal K., et al., 2021).

It was found that most households in China have limited financial literacy, leading to relatively low adoption of digital finance among these households. Additionally, the beneficial effects of financial literacy on the use of digital finance are more evident among affluent and younger households, as well as women and residents of urban and coastal regions, meanwhile, fewer studies are focusing on rural areas (Yang J., et al., 2020).

Zhan K., et al.(2024) believe that residents with better digital financial literacy are better equipped to utilize digital tools effectively, thereby reducing information search costs, participating in financial markets to smooth household credit, and building insurance protection mechanisms. The wealth and income accumulated in this process further support the improvement of consumption levels and economic benefits. In addition, digital financial literacy affects current and future savings and consumption behaviors. Households with low financial literacy are relatively over-indebted, which increases household financial vulnerability (Hao Y.2021).

It can be seen that the existing literature has examined the influence and role of digital financial literacy on residents' financial behavior, but the specific subdivision of digital financial literacy is not comprehensive and systematic enough. Drawing on a comprehensive analysis of how digital financial literacy affects residents' financial behavior, this paper presents its recommendations for enhancing digital financial literacy among residents.

2. The Main Body of the Review Paper

2.1. The definition and benefits of digital finance

A. Definition

Digital finance is seen as a novel approach to finance, with digital payments, digital investments, and digital financing as its basic businesses (Wang X., et al., 2020). According to Zhang W.(2024), digital finance includes the following basic components: firstly, the participating entities of digital finance include both traditional financial institutions and digital platform enterprises, fintech companies, etc.; secondly, from the perspective of implementation path, in order to provide financial goods and services, digital finance primarily leverages digital technology; thirdly, the content of digital finance includes various aspects of digital innovation that promote financial product services, business processes, business models, and so on. Digital finance—which includes digital wealth management products, digital credit services, and digital payment solutions—relies heavily on advancements in information technologies such as big data, the Internet, etc. (Lili Yu, et al., 2020).

B. Benefits

Fu J. et al.(2019) indicate that digital finance refers to the use of Internet technology, information communication technology, and digital technology by institutions engaged in the financial industry to effectively reduce transaction costs and solve the problem of information asymmetry in financial activities. Digital finance can break the limitations of time and space and increase the popularity of financial services(Wang X., et al., 2020). Compared with households without mobile money access, households with mobile money access are more likely to receive remittances, and they receive remittances more frequently and in higher amounts. He J., et al. (2019) reveal that digital finance can effectively stimulate users' enthusiasm for starting businesses and help improve performance. By studying three types of influence paths: credit constraints, information constraints, and social trust, they find that digital finance not only eases users' credit constraints but also improves information dissemination and access, as well as enhances farmers' trust through unique social trust channels, ultimately promotes users' entrepreneurship and improves performance. In addition, digital finance is also a kind of risk-sharing tool that can improve users' risk-taking levels to a certain extent (Wu Y., et al., 2021). Research by Wang X., et al.(2020) shows that by using digital financial services, users' ability to cope with production risks is improved, which reduces the vulnerability caused by production risks.

2.2. The definition and dimensions of digital financial literacy

A. Definition

Digital Financial literacy is defined as "acquiring the knowledge, skills, confidence, and competencies to safely use digitally delivered financial products and services, to make informed financial decisions and act in one's best financial interest per individual's economic and social circumstance" (Ravikumar T., et. al, 2022).

In the past, financial literacy and digital literacy were often regarded as two independent concepts, but in the era of the digital economy, the two should be closely integrated. Consumers need not only traditional financial literacy but also digital literacy. In recent years, more and more scholars and institutions have begun to use the concept of digital financial literacy. Lyons A. C., et al.(2021) provided a conceptual framework with five core dimensions for financial literacy, digital literacy, and digital financial literacy to examine the differences and connections between the three, mainly including basic knowledge and skills, awareness and cognition (knowing the available financial products and services, digital products and services), practical knowledge (knowing how to obtain and use them), decision-making (including financial attitudes and behaviors), and self-protection (including consumer protection and data security, etc.). Under this analytical framework, from basic knowledge and skills to awareness, and then to mastering practical knowledge, decision-making and self-protection are a progressive relationship. Digital financial literacy can be defined as the comprehensive elements of awareness (cognition), knowledge, skills, attitudes, and behaviors necessary for consumers to make sound financial decisions and ultimately achieve personal financial health in the context of the digital economy when facing a series of digital financial products and services and the new challenges and risks they bring. First, digital financial literacy is still based on traditional financial literacy content because no matter what form financial products and services are provided in, their essence is still finance; second, it also includes new requirements for people brought about by the digital transformation of finance, including being familiar with digital financial products and services, mastering the skills to use them, and understanding their characteristics and risks

(Ding Y. Y., et al., 2023).

B. Dimensions

Morgan P. J., et al. (2019) first established a theoretical framework for the measurement of digital financial literacy and proposed four dimensions: awareness of digital financial products and services, awareness of digital financial risks, risk control capabilities of digital finance, and consumer rights awareness and capabilities. "Knowledge of digital financial products and services" means that users are aware that financial products and services can be obtained through electronic channels; "Awareness of digital financial risks" means that users are aware that there are network security risks when using digital finance; "Digital financial risk control" means that users can avoid spam, phishing, etc.; "Knowledge of consumer rights and remedy procedures" means that users can protect their rights and interests when they suffer losses. Lyons A. C., et al.(2021b) developed a conceptual framework combining financial literacy, digital literacy, and digital financial literacy, summarizing five measurement dimensions, including basic knowledge and skills, awareness, practice, decision-making, and self-protection, and found that digital financial literacy is different from traditional financial literacy in these five dimensions. Setiawan M., et al. (2022) constructed a four-dimensional indicator system to measure digital financial literacy from four aspects: digital financial knowledge, practical experience, risk awareness, and skills.

2.3. The definition and dimensions of financial behavior

Fan C.Y. (2021) pointed out that financial behavior can be understood as the behavior of managing funds, which mainly involves the acquisition of funds and the good operation of the funds owned. For residents, it mainly includes borrowing, investment, consumption, insurance, and other behaviors. Digital financial behavior can be understood as financial behavior carried out through digital channels. Financial behavior refers to an individual's or household's capacity to manage their financial resources effectively, encompassing aspects such as income planning, financial management and control, and practices related to cash and credit. Sun Y., et al. (2021) highlight that as digital finance evolves and the variety of financial products expands, household asset allocation has become increasingly complex. Therefore, examining the relationship between digital finance and household risk management in asset investment not only offers valuable financial asset allocation guidance to families but also aids policymakers in leveraging digital finance to enhance the quality of life for individuals. In recent years, digital finance has greatly reduced the cost of consumer shopping, improved consumer experience, and created a series of new consumer demands. For example, the emergence of Alipay and WeChat Pay has made many consumption behaviors more convenient, enabling farmers, low-income urban residents, poor people, the disabled, the elderly, and other special groups to enjoy inclusive financial services, providing a strong impetus for the development of residents' consumption (He Z. Y., et al., 2020). With the help of financial technology development, in recent years, digital credit has fundamentally improved the efficiency and inclusiveness of financial services and greatly increased the availability of financing (Ouyang R. H., et al., 2022).

2.4. Studies on the relationship between digital financial literacy and financial behavior

Theoretically, households with higher levels of financial literacy have more access to financial information, stronger analytical, organizing and absorbing abilities, higher willingness and degree of digital financial participation, and tend to make better financial behavior decisions. Digital financial literacy can significantly alleviate the supply-based and demand-based constraints on household digital credit and has a significant positive impact on digital financial behaviors characterized by digital money management and digital lending participation (Song S., et al., 2021). Digital financial literacy affects users' access to funds, risk attitudes, etc., and the functions of digital finance such as money transfer and remittance, credit provision, and information delivery can broaden users' access to funds and information, and improve their risk-taking level. People with higher digital financial literacy can have better access to funds and improve the availability of loans through digital financial services (He J., et al., 2019). The payment, lending, and investment functions of digital finance have the function of information transfer, and users with higher digital financial literacy have richer knowledge and skills, and they use digital financial products more frequently. The higher the digital financial literacy, the better the ability to recognize, measure, and even prevent risks (Li J., et al., 2022).

3. Conclusion

Digital financial literacy is a combination of digital literacy and financial literacy. In the current context of the digital economy, it is a comprehensive literacy that consumers need to make sound financial decisions and ultimately achieve personal financial health in the face of a series of digital financial products and services and the new challenges and risks they bring. This article mainly discusses the definition of digital financial literacy and its measurement dimensions. Although there are different opinions in the academic community, in general, the consensus of most scholars is that it includes the understanding and application of digital financial products and services, as well as the cognition and prevention of digital financial risks. In addition, this article also explains the direct relationship between digital financial literacy and financial behavior. Generally speaking, the higher the digital financial literacy of users, the more scientific and rational their behavior in financial behaviors such as credit, consumption, and financial management, which can give them better benefits and better risk avoidance. Of course, the current digital financial literacy of users varies greatly. Consumer groups in the long-tail market often lack financial knowledge, risk awareness, and digital skills. When faced with rapidly iterating and innovative digital financial products and services, they are more likely to suffer from the impact of the digital divide, technical financial exclusion, and online financial fraud (Ding Y. Y. et al., 2023). How to improve the digital financial literacy of this group of people is also an issue that the government or relevant departments need to consider in depth in the future.

4. Future research prospects

Based on the existing conclusions, subsequent researchers can further carry out basic research on how to accelerate the theoretical framework, core elements, and evaluation indicators of digital financial literacy, and carry out in-depth practical research on consumer financial attitudes and behavioral characteristics in a digital environment, digital financial literacy evaluation scales, and digital innovation in financial education. At the same time, it is recommended that financial management departments follow the trend of accelerating economic and financial digital transformation, incorporate more digital financial literacy-related content into the consumer financial literacy questionnaire survey system, support industry associations, research think tanks, and colleges and universities to rely on industry strength to organize special surveys on different topics such as digital financial formats, digital financial customer groups, and digital financial knowledge types, and integrate the results of basic surveys and special surveys to more accurately grasp the level of consumer digital financial knowledge and the weak links in the field of digital financial education, evaluate the effectiveness of digital financial education-related resources, activities, and tools, and explore the establishment of a digital financial education monitoring and evaluation mechanism, scientifically evaluate the effectiveness of digital financial education, and further optimize the allocation direction of government financial education resources.

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