

The Analysis of Digital Finance and Digital Inclusive Finance

Discussion on Impact, Problems and Suggestions

Wenge Zuo

The University of Manchester

wenge.zuo@student.manchester.ac.uk

ABSTRACT

In recent years, digital finance has developed very rapidly. With the development of social economy, the society should strengthen the understanding of Inclusive Finance and further promote the practice of modern Inclusive Finance. The development of traditional inclusive finance faces the problems of narrow business coverage, asymmetric information supply and demand, and high service transaction costs. In order to reduce poverty levels in developing countries and emerging economies, the G-20 and the world bank is leading efforts to increase Inclusive Finance in developing countries from 2010[1]. Promoting the development of digital inclusive finance through modern digital technology has a positive impact on economic growth. This paper gives a brief overview of digital finance and digital Inclusive Finance, discusses the impact of digital finance on financial inclusion, which also combs the problems and challenges of the development of digital finance or digital inclusive finance in recent years, and puts forward some suggestions.

Keywords: *digital finance, digital inclusive finance, financial inclusion, financial analytics.*

1. INTRODUCTION

Digital finance refers to the financial services provided through the Internet and some electronic devices such as mobile phones and computers, which combine the traditional financial service formats to form a new generation of financial services. Inclusive finance is provided for different social strata and groups, which refers to financial services based on the requirements of equal opportunities, the principle of business sustainability and affordable costs. Digital inclusive finance generally refers to all actions to promote inclusive finance through the use of digital financial services, which includes increasing the number of people (mainly the poor) who have access to formal financial services mainly through the possession of formal bank accounts, which is conducive to poverty reduction and economic growth. With the further development of financial inclusion, previously economically excluded individuals will be able to invest in education, savings and entrepreneurship, which will contribute to poverty reduction and economic growth. It is desirable that an inclusive financial system will

provide access to and transfer of funds, increase capital and reduce risks for all, especially the poor [2].

With the rapid development of information technology such as the Internet and big data and the integration of Finance and technology, inclusive finance has gradually realized the leap forward development from traditional Inclusive Finance to digital Inclusive Finance. Digital inclusive finance uses digital technology and cloud computing to reduce the operating cost of financial services and improve service efficiency. At the same time, it also improves the coverage and accuracy of inclusive financial services, and can well overcome the problem of information asymmetry in traditional Inclusive Finance. In the epidemic environment of 2020-2021, it can also meet the "non-contact" financial needs during the epidemic period. The rapid development of digital Inclusive Finance not only provides strong support for many poor people and small, medium and micro enterprises, but also provides reference experience for the development of international financial inclusion.

2. THE IMPACT OF DIGITAL TECHNOLOGY IN FINANCE

2.1. Digital technology has brought convenience to the financial industry and customers

CGAP defines digital financial inclusion as "digital access and use of formal financial services by excluded and underserved people" [CGAP, 2015]. At present, this new financial service is being launched and applied in at least 80 countries [GSMA, 2014]. Thus encouraging millions of poor customers to use digital financial services instead of cash. Although different people have different definitions of digital finance, there is a consensus that digital finance includes all products, financial services and related-software. Customers and companies can pay or trade online through digital technology, such as e-wallets, mobile wallets, online banking, mobile banking. The Internet has become a recognized distribution channel in the banking industry, and all traditional banks and new participants find it more effective than the channel. The purpose of using digital platforms to provide financial services is to promote financial inclusion in developing countries and help reduce poverty levels [1]. [United Nations, 2016] Digital finance gets rid of the dependence on financial entity outlets. People no longer have to worry about inconvenient transportation and long queuing time in the bank hall. It also allows financial services to reach all regions, including rural and remote areas, providing more convenient services for small, medium-sized and micro enterprises and low-income people.

2.2. Digital technology reduces the transaction cost of Inclusive Finance

Generally, finance has four kinds of costs: customer acquisition cost, risk screening cost, operating cost and capital cost. The first three costs are being profoundly changed by technology. Mobile Internet has changed the cost and efficiency of obtaining financial users. Big data, artificial intelligence and cloud computing have changed the cost and efficiency of risk screening. Risk screening is based on information. Big data changes the cost of collecting and processing information. Artificial intelligence is actually an ability to learn data and generate insight, and the cost of cloud computing is probably one tenth of the cost of traditional it. Therefore, the combination of these three things can fundamentally change the cost and efficiency of identifying risks. Large technology platforms have a long tail effect, can serve a large number of customers at the same time, and the marginal cost is very low, which cannot be done by traditional financial institutions. For example, large financial institutions need to provide tens of thousands of yuan of financing services for small

customers, which has a high fixed cost. They need to do due diligence, go to small customers' homes and factories, and have travel and other costs. However, the big technology platform can control the marginal cost through big data and long tail effect, which makes it not only possible but also profitable to provide financial services for small customers. Furthermore, relevant research shows that the construction cost and maintenance cost of special electronic technology infrastructure for mobile and digital banks are 60% ~ 80% and 30% ~ 59% of traditional banks respectively, and the number of employees required is only 10% ~ 15% of traditional banks.

2.3. Digital technology improves the risk identification ability of Inclusive Finance (and enhances the effectiveness of risk control)

Big data and artificial intelligence technology are helpful for information collection and risk screening. Digital technology can effectively reduce the cost of risk management and improve the ability of risk assessment and identification. More importantly, digital technology can further refine financial services or financial products through the collected data. Big data analysis can enable financial institutions to better understand customers' needs, effectively subdivide customers' needs, and then design and provide more targeted products to make financial services more meet individual needs. Secondly, digital technology is also conducive to information transparency. Financial service institutions can provide risk information query for products or services, trend analysis based on historical data, comparison, prediction and analysis of risks and returns, and put forward reasonable suggestions for future development or strategies. Moreover, digital technology can also make the disposal methods of inclusive financial risks more effective. Through digital technology, we can effectively identify risks, so that financial service institutions and customers can effectively avoid certain risks in the process of transaction.

3. PROBLEMS

3.1. Difficulties in data analysis

First, financial personnel also face many difficulties in checking and analyzing correct data. For example, if the financial industry gets junk data, it will not only be useless, but also produce bad results. Analysis develops from descriptive to diagnostic and predictive, and now to perspective analysis. Perspective analysis is currently used to determine the ideal solution. However, these analyses can produce ideal results only when the data processed are from reliable sources [4]. Due to the limited data of commercial banks and the financial

industry, the development of inclusive financial business must rely on a large number of off-line data. There are many uncertain factors in the use of off-line data. Therefore, if the data initially obtained by accountants and financial analysts to be judged is defective, the result is wrong regardless of the processing efficiency.

3.2. Some financial risks

Second, the corresponding risk control issues have become increasingly prominent, such as data security, privacy protection and information disclosure, which have become a major problem and challenge for the global development of digital Inclusive Finance. In the development of digital inclusive bank, many commercial banks and financial service industries developed new systems, built many online platforms and cooperated with a large number of third-party businesses in parallel. If there is a little problem in the transaction chain, the cooperation of businesses or platforms will be seriously affected. Not only will the reputation of banks or financial services industry be greatly affected, but also third-party institutions may obtain and disclose relevant data of users. Alice mentioned in her paper a study conducted by the European Union, which showed that about 70% of Europeans were worried about the abuse of data. They were worried that different organizations might share these data without their consent. Many Internet users do not know to pay attention to privacy policies when registering on social networking sites. Browsing on the Internet, many people do not know that the data of their online search results may be provided to online advertisers [5].

3.3. Difficulties encountered in processing and storing data

Third, due to the universality, diversity and mass of data, how to organize and store data is a problem. Many organizations need to save historical data for future trend prediction and other complex analysis, which poses a great challenge to the reliability of storage systems[6]. At present, there are some defects in big data analysis. Big data forecasts the future of customers mainly through correlation analysis, that is, focusing on the analysis of one data change, but at the same time, another data may change with its change. Therefore, the weakness of big data is the analysis of causality, and the correlation analysis must be based on a certain premise and foundation. If the current summary basis changes, the prediction of big data may have problems. Furthermore, there are many sources of data in the financial field. They come from all aspects, and their subjects are different. However, due to the increasing number and types of mobile devices, more and more data are generated. The meaning of each kind of data is different, and the meaning of each kind of data

that needs big data to analyze is different. Finally, the method of storing data changed. In order to make better use of big data, the type of data will be changed in the process of collecting and sorting data, which will increase the difficulty of data processing to a certain extent[7].

4. SOLUTION AND SUGGESTION

4.1. Strengthen the construction of network platform

In the future, the financial industry can further deepen cooperation with internet platforms. Because most Internet enterprises have small and micro enterprise data, which have a wide range, homogeneous categories, large quantity and reliable authenticity. In the current situation of stricter supervision of the Internet sector, the financial function of Internet enterprises will be weakened to a certain extent compared with the past, and a large number of data and resources may be difficult to give full play to its role. The banking and financial industry should strengthen cooperation with internet platforms in the future, connect with the scientific and technological strength and massive transaction data of Internet enterprises with professional financial concepts, risk control means and tools, jointly build a good and efficient Internet scene and platform, and create Internet Finance and digital finance with controllable risk and in line with regulatory requirements.

4.2. Strengthen data management and improve risk management ability

Financial service institutions or banks shall do a good job in the selection and evaluation of platforms. Although the construction of the platform can reduce the information asymmetry, if an inappropriate platform is selected, the problem of information asymmetry may be more serious. The financial service industry and commercial banks can establish a set of evaluation standards and requirements for cooperation platforms, conduct offline investigation and offline approval process for different platforms before selection, and reasonably determine the cooperation risk limit according to the investigation results. At the same time, companies and institutions should regularly carry out training for financial personnel, so as to help them effectively establish a professional knowledge system of digital finance and continuously improve their ability. On the other hand, the society should help the masses to strengthen consumers' self-protection ability, improve their risk identification ability, and popularize the relevant knowledge of digital finance and digital Inclusive Finance to the masses through television, radio, Internet, newspapers and other means [8].

4.3. Promote the integration of big data and traditional credit analysis methods

Technology is not omnipotent. Only relying on data technology cannot solve all problems. For banks, it is impossible to abandon the traditional credit common sense and logic. Therefore, in the future development, it is not to replace the traditional credit methods with big data, but to further improve the credit analysis technology through digital technology. Bin Wang and Xi Wang mentioned in their article that one of the most important factors for the healthy development of digital finance is the construction of a credit investigation system. On the one hand, the financial industry and banks should develop a standard that is used to measure and facilitate the collection of user credit data, thereby expanding the scope of data collection. The credit department can set up a unified standard which is used to collect credit data, and maximize the use of big data technology to strengthen the collection and integration of various data. On the other hand, credit investigation supervision needs to be continuously strengthened to better maintain data security. It is also necessary to ensure and improve the quality of data collection, and improve credit market access and exit mechanisms[8].

5. CONCLUSION

In recent years, with the continuous application of science and technology, the financial industry has achieved a leap forward development. Many financial institutions and banks have basically completed the digital transformation, and digital Inclusive Finance has gradually gained recognition and recognition by more people. In fact, digital inclusive finance is a comprehensive, high-speed and efficient system to provide financial services for all the public, among which the key service objects are some low-income people and small and micro enterprises. The financial services provided by digital inclusion have many advantages, such as low risk, low cost, high efficiency and so on. Of course, digital Inclusive Finance also faces some challenges and difficulties in the development process, such as how to process and store data, how to analyze data and some existing risks. Financial industry needs to pay attention to and continue to apply digital technology, balance the advantages and disadvantages of digital inclusive development, and constantly achieve innovation and breakthroughs.

REFERENCES

[1] Tabitha Durai & G. Stella (2019), Digital finance and its impact on financial inclusion.https://www.researchgate.net/profile/Tabitha-Durai-2/publication/330933079_DIGITAL_FINANCE_AND_ITS_IMPACT_ON_FINANCIAL_INCLUSION/links/5c5c28c1a6fdccb608af1cf1/DI

GITAL-FINANCE-AND-ITS-IMPACT-ON-FINANCIAL-INCLUSION.pdf

- [2] Peterson K.Ozili (2017), Impact of digital finance on financial inclusion and stability.
<https://www.sciencedirect.com/science/article/pii/S2214845017301503#bib19>
- [3] Huidong Sun, Mustafa Raza Rabbani, Muhammad Safdar Sial, Siming Yu, Jose Antonio Filipe & Jacob Cherian (2020), Identifying Big Data's Opportunities, Challenges, and Implications in Finance.<https://www.mdpi.com/2227-7390/8/10/1738/htm>
- [4] Alicja Choma, Big Data in Finance: Ethical Challenges.http://www.obsfin.ch/wp-content/uploads/Document/Choma_RCP.pdf
- [5] Xinhui Tian, Rui Han, Lei Wang, Gang Lu & Jianfeng Zhan (2015), Latency critical big data computing in finance.<https://www.sciencedirect.com/science/article/pii/S2405918815000045>
- [6] Ma Liyun (2020), Discussion on Big Data Application in Finance.<https://www.proquest.com/openview/582ede8a8a882cb57a0dd438bf0492d4/1?pq-origsite=scholar&cbl=2040555>
- [7] Bin Wang & Xi Wang (2020), Research on Development Status, Problems and Countermeasures of Digital Finance in China.