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Microeconomic Approaches to Financial Digitalization: A Perspective from the Bank Financial Institution

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Abstract

This study's goal is to offer microeconomic perspectives on financial digitalization from the perspective of a bank financial institution. Industry participants are offering a variety of solutions, many of which are cantered on collaboration, while regulation is still considering how to create an even playing field. The study also demonstrates cutting-edge methods and brain research used to spot behavioural trends in financial digitalization decisions and various consumer financial digital channel usage patterns. The researcher has used secondary data analysis. By understanding more about the microeconomic approaches to financial digitalization from the perspective of the bank financial institution, researchers and practitioners can both gain from the findings. It also offers fresh ways to gauge consumer reactions to and adoption of financial digitalization. Academics and businesspeople should consider the conclusion's significant ramifications.

Keywords: *Microeconomic approaches, microeconomic information, neuroeconomics, brain data, financial digitalization, banks, FinTech, BigTech.*

Introduction

There are still a lot of people in existence who lack a bank account. A few examples of indices of financial inclusion that differ significantly between industrialized and developing nations are the number of people with accounts, the use of credit and debit cards, and the capacity to receive and send payments. A fair transition to a low-carbon economy can be supported by the financial sector by encouraging entrepreneurship and innovation through digitalization. The sector is essential for creating the macroeconomic circumstances that support economic growth and employment in any nation. Along with generating new prospects for company funding and boosting financial inclusion, the growth of digital finance also gives customers the chance to access better banking and financial services. Social discourse can be used to both promote the adoption of new technologies and control the effects of digitalization. Promoting new social discourse frameworks and laws is vital for a fair shift to the digital age.

When contemplating information sharing as the primary bone of contention in the financial services industry between banks and internet corporations, it is imperative to comprehend how both organizations can employ this information. Especially how familiar retail financial service providers are with online media habits. Banks have some advantages due to their existing client relationships, but tech companies have an advantage when it comes to handling massive amounts of data. In this context, sophisticated methods like machine

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learning are used to manage enormous client databases. It not only enables the comprehension of customer preferences.

Focusing the Financial Digitalization-A Microeconomic Perspective

Millions of low-income consumers who were previously neglected and uninsured now have access to formal financial services like transfers, payments, savings, credit, insurance, and even securities thanks to mobile phones or other digital technology. They are no longer limited to making payments in cash exclusively. The rate of change in the world is also accelerating as a result of the exponential rise of cutting-edge technologies. Digital financial inclusion involves the use of cost-effective digital technologies to provide a variety of formal financial services to populations that are currently underserved and financially excluded at a cost that is reasonable for customers and sustainable for providers. Models of digital financial inclusion being created in many countries throughout the world engage new market participants and assign obligations and risks, in contrast to traditional methods of providing retail financial services. Risks are present in most, if not all, initiatives to advance digital financial inclusion. Whether mobile network operators are operating as e-money issuers or as a gateway for banks or other providers, engaging them involves a number of potential risks that are different from solutions without MNOs. The relevant digital transactional platform's design has a number of problems. In addition to the risks already existing in the payments, transfers, and value storage services that the digital transactional platform itself currently provides, offering new financial services implies a number of additional hazards.

Financial Institutions Begin with Digital Transformation

Mostly as a result of the lack of a backward motion. Banks were forced to go online, and as technology develops, financial institutions must adapt. It is necessary to develop better services and more effective fraud prevention. One sector still feeling the repercussions of the digital revolution is the banking sector. When the financial industry is addressed, more than only banks and other traditional financial organizations come to mind. Due to digitalization, hitherto unheard-of financial institution kinds entered the market. A significant number of them even have an impact on the company as a whole. Some businesses continue to believe that turning digital is just a customer-focused activity. However, a range of digital tools and services are now available that the financial sector can take use of and a staggeringly large number of financial sector entities are aware of this.

Plans for the digital transformation of financial service providers are already in place. The banking industry can now offer top-notch services online and across a range of devices. The user experience is improved overall, and customers save time and money. It is critical to comprehend how digital technologies operate and the possible benefits they present, as well as the standards and requirements related to digital transformation. If digital transformation initiatives are not properly understood or implemented by focusing in the wrong place, they may ultimately lead to far more challenging and complex operations. Financial institutions must first approach the digital transformation as a cultural revolution in order to grow their companies. Companies will only be able to accomplish this by properly merging their digital strategy with their operational needs.

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Techniques Applied to Consumer Data

Using techniques like random or casual forests, it is possible to anticipate the uptake of digital financial services. In 2019, Carbo-Valverde et al. used these methods to analyze a sizable sample of consumer data. Spanish respondents between the ages of 18 and 75 who participated in the poll were questioned about their digital preferences, particularly those related to banking and payment services. This survey's major model was the Federal Reserve Bank of Boston's Survey of Consumer Payment Choice (SCPC). The poll also gathered information on payment methods and in-depth consumer digital preferences. As part of the theoretical foundations of technological acceptability, it also provided specifics on a variety of traits that explain the acceptance and use of digital channels. To identify trends in financial digitization, they use a random forest technique. According to statistics, random forests are a set of tree predictors where each tree is dependent on values from an arbitrary random vector that had a uniform distribution over all of the trees in the forest (Breiman, 2001)

Some of the main conclusions of Carbo-Valverde et al. (2019) imply that the need for clients to comprehend basic elements of their banking accounts facilitates the shift to transactional services. Customers started utilizing a greater range of online and mobile services after initially adopting them since they were aware of the bank's extensive assortment and believed those options to be safe. It is interesting to see how users of various digital banking systems choose to use non-bank payment methods like PayPal and Amazon. This could mean that the digital services offered by banks and non-banks complement one another.

Aim of the Study

The purpose of this paper is to present the microeconomic approaches to financial digitalization: a perspective from the bank financial institution.

Methodology

The researcher has looked over many academic papers that have been published in journals. This paper was produced using desk-based research and secondary data.

Application of Machine Learning Algorithm

It is vital to keep in mind that these machine learning approaches allow for more than just managing large databases and sequencing decision-making. Additionally, they frequently show higher forecast accuracy than traditional prediction methods. The machine learning algorithm was able to predict the adoption profiles of 88.41% of bank customers for online banking, 70.11% of the diversity of digital use of online banking, 70.01% of the diversity of digital use of mobile banking, 85% (74.89%) of debit (credit) cards, and 76.14% of non-bank payment instruments using the study by Carbo-Valverde et al. as an example (2019). The adoption of online banking by 79.27% of bank customers, the diversity of digital use of mobile banking by 59.57%, the adoption of debit and credit cards by 84.23% (70.62%), and the adoption of non-bank payment methods by 73.46%, however, were accurately predicted by the standard ordered logit and simple logit models.

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It is crucial to include both the consumer decisions and the behavioral factors that affect them when assessing the consumer behavior component of financial digitization. Digital channels' dependability and perceived risk, to name only two examples, demonstrate how digitalization has changed, how consumers obtain information and complete financial transactions. Numerous studies have revealed that many people make decisions about borrowing, investing and saving that go against solid financial principles because of cognitive limitations and a low average degree of financial literacy (Frydman & Camerer 2016). In a similar line, depending on who they are, people have rather different viewpoints on choices about financial digitalization. One important aspect of digital channels is the offline component of engagement, which contrasts with the human connection connected to offline services. Simply adding a digital component to financial decision-making is difficult as a result.

Potential Risks of Digitalization in Banking

Digital technology has benefits and drawbacks. The global financial sector experienced a peak in distributed denial of service attacks in 2021. Banks need to guard against conventional financial risks, but they also need to be prepared for hidden risks, model risks, algorithmic faults, and data security problems earlier. Traditional banks might learn from foreign banks that have built a reputation for being innovators in digital operations since they are currently not taking the risks of the digitalization process seriously enough. A new regulatory framework that considers the risk characteristics of digitalized banks and is based on the Basel Accords, a set of international agreements reached addressing capital, market, and operational risk, may, however, already be reducing such risks. Banks could benefit even more from digitalization's many advantages if they pay attention to these areas and quicken and develop it in banking.

Impact on Financial Digitalization Decisions

However, little is known about how perceptions of financial digitization are impacted by brain activity. Several researches have examined the relationship between brain activity and the tendency to take financial risks. This is crucial if judgments towards financial digitization are influenced by patterns of brain activation across different groups in terms of adoption, as well as attitudes toward risk and trust that have been disclosed. Despite being significant in the majority of commercial transactions, trust has been demonstrated to be particularly vital in online or more generally, digital environments (Bart et al. 2005). Many studies, usually utilizing trust neuro-experiments, have examined the connection between dependability and the activation of specific brain regions in human-based offline situations (Baumgartner et al. 2008). The main conclusions of these studies show that while brain regions like the striatum, cingulate, and prefrontal structures enhance trustworthiness in digital or online environments, brain regions like the amygdala and the insular cortex are more active in circumstances involving contradiction and malice in the economy. A recent study by Carbo-Valverde et al. (2020) found a correlation between frequent use of digital financial services and higher levels of vulnerability. To do this, they employ functional magnetic resonance imaging. During a trust game, these frequent users of financial internet channels display increased emotional processing-related brain activity.

Digital Financial Services and Future Prospect

There are several options currently offered by digital financial services. You may do any financial operation, such as transfers, payments, deposits, savings, and more, with

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only a few clicks. Additionally, when personal and business accounts are in the same accounting system, there are more administrative options. The banking sector will become significantly more digital during the coming decades. In digital wallets, there will be more native and open functionality. Payments and transfers both online and offline will be easier to do, and the biometric component will be used across the security system. The entire banking procedure, including opening an account, keeping it up to date, and promoting its expansion, will be made simpler.

Conclusion

The primary focus of this work is on the microeconomic theories underlying the digitalization of finance. Traditional banks and digital companies compete with one another in the financial services industry primarily on the basis of their capacity to control information sharing. The initiatives that banks, FinTech companies, and BigTech companies are currently undertaking offer several prospects for partnership. The shift to transactional services is made easier by the trend of digitalization, which appears to have its roots in client needs for information on numerous personal finance topics. We also gave some insight into some key behavioral traits that influence choices related to financial digitalization. In any case, it appears that this trans disciplinary task is a recent development. There are numerous research trajectories to take into account. More consideration should be given to analyzing newly emerging platforms for platform competition in banking. It will be vital to take into account if sharing information with internet businesses can lead to the creation of a new category of relationship banking. More study will be needed to determine how big data, artificial intelligence, and the alignment of supply and demand for digital services affect productivity and user experience. In general, it is crucial to consider how regulation and oversight should handle information management and sharing, as well as how this may affect consumer protection and bank competitiveness.

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