THE ROLE OF FINTECH IN MICROCREDIT AND POVERTY ERADICATION

by

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ABSTRACT

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This study considers the function of Fintech in microcredit and its capability for tackling poverty. This paper analyses Fintech integration with microcredit and demonstrates how enhancement of Fintech enhances access to microcredit as a tool for economic development, creation of small businesses, capacity development, and financial literacy. The research applies a quantitative methodology with a descriptive focus, targeting a sample of 300 individuals along with small business operators who have worked with microcredit institutions that adopt Fintech solutions. To gather the data, an self-developed Fragebogen which is based on a Likert scale with 5 answer points was employed, The collected data was then analysed with the help of SPSS through Regression- and Correlation analysis to examine the hypothesis. The outcomes illustrate a major positive relationship between Fintech in microcredit and ease of access to microcredit, showing that Fintech creates an easier application process, provides adaptable repayment options, better customer service, and convenient transactions. This research study shows that enhanced microcredit leads to significant improvement in economic performance, encourages establishment of small-scale enterprises and strengthens capacity development, factors that are central to the fight against poverty. The study establishes that all these factors work in

harmony to ensure that the war on poverty is supported through empowering persons as well as the society, whereby everybody and every community can be empowered to achieve economic and social transformation. Policy makers, financial institutions, and development organizations can use the research's findings to increase the accessibility and efficacy of microcredit by leveraging Fintech. The study offers the following recommendations for increasing the influence of Fintech on poverty reduction: to support the policy of financial inclusion, increase the circle of patients acquainted with digital technologies, develop new types of financial services for the low-income population. The research concludes to the idea that Fintech operating in microcredit holds the key to transform interventions on poverty eradication through extending access to affordable and inclusive finance instruments for sustainable economic development. This emphasises the need to blend Fintech in development agendas intended to address poverty.

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Abbreviations	Full Form
KPIs	Key Performance Indicators
VC	Venture Capital
FinTech	Financial Technology
UX	User Experience
P2P	Peer-To-Peer
NCMC	National Common Mobility Card
RBI	Reserve Bank Of India
IRDA	Indian Revenue Development Authority
SEBI	Securities And Exchange Board Of India
UPI	Unified Payments Interface
RDA	Rupee Drawing Arrangement
OPGSP	Online Payment Gateway Service Providers
MoU	Memorandum Of Understanding
BNPL	Buy Now Pay Later
AI	Artificial Intelligence
RL	Reinforcement Learning
NLP	Natural Language Processing
ML	Machine Learning
CCAF	Cambridge Centre For Alternative Finance

CHAPTER I:

INTRODUCTION

1.1 Background

Policy makers, financial institutions, and development organizations can use the research's findings to increase the accessibility and efficacy of microcredit by leveraging Fintech. A technical breakthrough that challenges the status quo of conventional financial services, financial technology (Fintech) emerged as a primary reflection of this phenomena. Fintech is a technology upstart that has improved the prompt delivery of client solutions by utilizing practical models in the financial services sector (Anifa et al., 2022). This kind of shift is not exclusive to banks but is evident in many areas of the financial sector. These include investments, insurance, and even peer-to-peer services, which are comparatively younger. This is meant to clarify how Fintech contributes to the establishment of traditional financial service providers.

Services and the effects they have on different stakeholders, such as clients and financial institutions (Arner et al., 2018). Services and the effects they have on different stakeholders, such as clients and financial institutions To governments, banks, and consumers, it opens up new opportunities, but also, new challenges, they have to face. In Boratyńska (2019) In my view, more research is necessary to fully understand the part Fintech has played in the evolution of traditional financial services. The utilisation of Fintech services is gradually increasing and is perceived as crucial to the society and enterprises. Technological application in finance can be used in several activities and at different levels in the population, and it does not only limit itself to particular sectors. Thus, the understanding of the function of Fintech has to be deeper to meet the demand and address the challenge of the digital age. By improving the operational effectiveness of the business and extending the base of the financial services provided, the transformation

might result in social and economic implications. The ability to identify economic opportunities that are encompassed under Fintech advances helps brings about financial and economic improvements (Imerman & Fabozzi, 2020). Obviously, fintech has its pros and cons when it comes to security, namely threats and challenges. Security issues remain a field that has to be prioritized in this financial transformation as new privacy and security risks may be created as users of Fintech increase.

This thesis aims to explore the role of Fintech in Microcredit and Poverty Eradication. For enhancing instant and convenient management, access, and transactions of the finances, Fintech has introduced many platforms and applications (Jarvis & Han, 2021). The goal of this research is to help academics, government officials, and financial industry professionals better understand and adapt to these rapid changes so that they can seize the opportunities and overcome the threats they pose. The findings of this study are also thought to have implications for developing rules and business plans that can adjust to the dynamic financial services industry. Fintech has been the subject of extensive study, yet there is always need for more investigation. It is possible that certain facets of Fintech's influence on different areas of financial services have not been thoroughly investigated just yet. Consequently, this study will significantly advance the field by bridging the knowledge gap and shedding light on how Fintech is changing the face of conventional banking. Through the integration of these elements, this research is anticipated to make a significant impact on stakeholders, assisting them in navigating obstacles and capitalising on opportunities presented by the Fintech age (Harsono et al., 2024).

1.2 Fintech (Financial Technology)

The use of computer networks and systems in the banking and financial industry is referred to as "fintech". Among the many developments included are AI, blockchain technology, digital banking apps, and online payment systems. When it comes to providing

financial services, fintech is all about making things easier, more accessible, and more innovative. Digital banking can be described as the financial technology that includes the use of various online banking applications that facilitate the delivery of banking services through technology-related channels (Gomber et al., 2018). The solution consists of online banking, mobile banking, and other online banking services that let users conveniently manage their accounts, make transactions, and get information. Due to new emerging payment systems, fintech is an element of a revolution in the payment system and money transfer. Digital money is defined as Digital money is any type of digital money which comes under the category of cryptocurrencies and doesn't have a foreign component contained in physical form, mobile payment options and applications that include digital wallets and payment applications as well as online payment systems. The holders are no longer fixed to the physical money, card or even for the transactions, remittance, and subscription to the financial products and services (Golubev & Ryabov, 2020). Improved evaluation of risks, improved accuracy of inputs and outputs, as well as customised solutions in the field of finances are some of the outcomes that can be attributed to the application of AI in the sphere of financial technologies. A possible interaction between fintech and IoT is real-time monitoring of linked devices' financial data and collection of such data. This can create the means for improved extension and development of financial services to individual clients, as well as enhanced organizational database and decision-making. To offer financial services tailored to users' needs, to recognize trends and financial conducts of consumers are made through data analytic in fintech. Data analytics can be categorized in many ways depending on the scope of analysis but in this case, let us categorize it in view of its importance to producing targeted goods and services hence meeting consumer needs. This way, fintech is transforming financial services and altering the industry's previous paradigm with these various technologies. The main objectives are

the enhancement of efficiency of the financial sector, its accessibility for the market participants and innovation promotion (Barroso & Laborda, 2022). Due to continuous improvement, a fluent and versatile financial environment is being introduced which will satisfy the needs of a society that is part of digital society (Mention, 2019).

Nonetheless, such phosphorescent opportunities are striking through the problems of consumer protection as one of the several issues affecting the current state of peer-to-peer lending services facilitated by fintech as an option for consumer financing. In order to guarantee the long-term viability of fintech operations and their societal influence, particularly among millennials and Generation Z, it is critical to address consumer protection and regulatory considerations immediately (Table 1.1)

Table 1.1: SWOT analysis in the application of fintech

STRENGTHS	**WEAKNESS**
➢ Easier data access. ➢ It can be reached by all groups. ➢ Operational costs and marketing costs become more economical. ➢ There is a greater variety of goods produced, including SMS, call, online, and mobile banking.	➢ Requires a supported internet connection. ➢ There are online crimes such as wiretapping, burglary and cybercrime. ➢ Not all are licensed to collaborate. ➢ Public knowledge is still lacking regarding financial technology. ➢ Uneven communication technology infrastructure.
OPPORTUNITIES	**THREATS**
➢ Bank Indonesia and the OJK Institute regulate financial transactions.	➢ The unfavourable political situation causes inflation to rise.

➢ Many start-up companies have emerged. ➢ Public awareness is starting to grow in saving and borrowing financially through banking. ➢ The fintech industry is always innovating in creating new businesses.	➢ Increasingly sophisticated technology, if not supported by quality human resources, creates inequality. ➢ Globalization and increasing trends have made financial technology diverse and created competition.

Source: - Sufa and Suparnyo (2024)

Fintech's Expanding Horizons

Technology appears to have a strong grip on every facet of social economics in this digital age. All around the globe, governments and entrepreneurs are actively pursuing digitalisation. Tech businesses that are changing customer behavior include Uber in the personal transportation market, Airbnb in the hospitality sector, Amazon in the e-commerce sector, etc. Following the 2008–2009 global financial crisis, which had a significant impact on disruptive technologies due to the banking sector, a new industry known as fintech arose (Arner et al., 2015). Many researchers are interested in studying how fintech interacts with more conventional banks. Sheng (2021) claims that the development of fintech significantly affects bank credit, which in turn influences the banking sector (Thakor, 2005). At the same time, the presence of fintech negatively impacts the effectiveness of financial organizations (Phan et al., 2020). Thus, further theoretical development of research in the domain of fintech and its relationship with bank performances will be helpful to provide the final word about the effects fintech has on banks. Several possibilities of defining the extent of fintech attributes may be discovered from the perspective of quantitative analysis of this phenomenon. For example, to measure

the fintech variable, Phan et al., (2020) employed the number of fintech enterprises. Asmarani and Wijaya, (2020) outlined the frequency and value of fintech funding as the fintech variables. Reporting from Dranev, Frolova and Ochirova (2019), the fintech variable was measured with the total numbers of M&A related to the business in the fintech sector. However, given the large number of sources on the topic of fintech available on the Internet, those methods can be rather obsolete.

History of FinTech

The origins of the phrase "FinTech" can be found in a Citigroup initiative from the early 1990s. Regulators, businesses, and consumers all began paying more attention to the sector in 2014. The relationship between information technology and financial services is not new, despite FinTech's perception as a relatively recent development. Actually, there has been a long history of mutual reinforcement and connection between financial and technological progress. Among the factors that helped establish FinTech as the standard, the financial crisis of 2008 was a turning point in history. This change has put market participants and regulators in a unique position, especially when it comes to balancing the benefits and drawbacks of innovation. With everything going on, it's natural to wonder what the future of finance holds in light of digitisation. How will conventional banks function in the future? Is it likely that FinTech businesses will grow in lockstep with the banking industry? For those who rely on financial services, what are the novel dangers that these synergies bring? To avoid distorting the market in favour of existing enterprises, regulators must strike a balance that permits both incumbent firms to stay in business and new entrants to innovate. It follows that regulators should adhere to certain broad principles in order to find a middle ground, considering the aforementioned difficulties. The first thing they should do is remain impartial when it comes to new technologies. Whether they provide old-fashioned methods or cutting-edge technical answers, rules should encourage

healthy competition among market participants. Second, in order to prevent market fragmentation and low competitiveness, a uniform and non-discriminatory set of rules should be implemented, creating a fair playing field for all participants. Lastly, it is crucial for regulators to prioritise user and financial system protection (Anyfantaki, 2020).

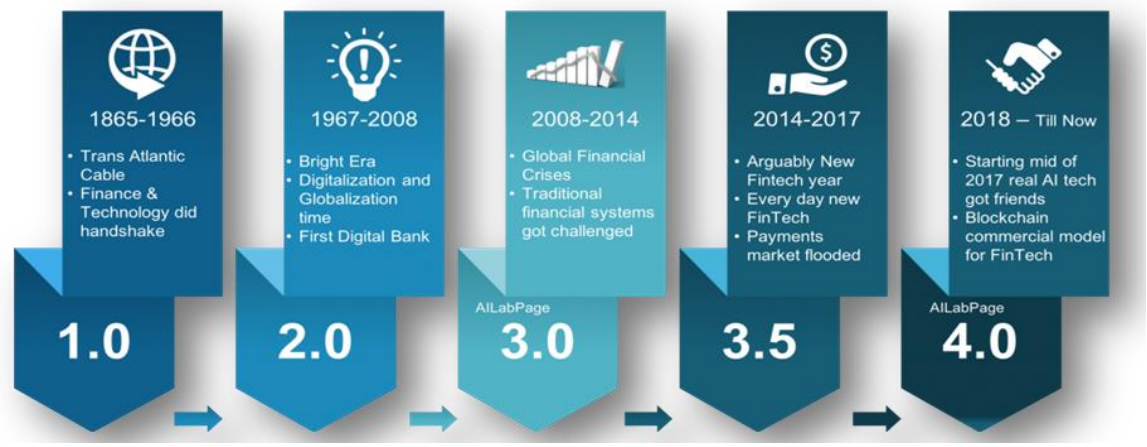


Figure 1.1: Fintech Evolution

There have been notable technological and financial improvements during each of the many eras that make up the evolution of FinTech FinTech 1.0 (1865-1966) saw the integration of finance and technology beginning with the Transatlantic Cable, which facilitated international communication and transactions. FinTech 2.0 (1967-2008) was characterized by the era of digitalization and globalization, leading to the establishment of the first digital bank and the broader adoption of electronic financial services. The period from 2008 to 2014, termed FinTech 3.0, was notably impacted by the Global Financial Crisis, which challenged traditional financial systems and spurred innovation and disruption within the industry. This was succeeded by FinTech 3. 5 (2014-2017), This might be seen as the period of time when new FinTech businesses and technology, mostly in the payments industry, are emerging. Finally, FinTech 4.0, (2018 – Present) is the last stage that involves incorporation of enhanced technologies and blockchain to phenotypes

of already commercial FinTech models to enhance the delivery of further change and value to the monetary services sector.

Evaluation of FinTech

Being a novel that has impacted the existence of man in various ways, technology has influenced the ways by which individuals and various bodies in society make their financial choices primarily through the sale of financial technology or what is popularly known as FinTech. Among them are establishment of new players in the market requirement of customers as well as the new technologies, which have led to this revolution. Among the most important ways in which FinTech has altered the process of making financial decisions are: some of the advantages includes:

(1) Convenience and accessibility: FinTech mean people can get to money and manage it when they want and where they are. Through smartphone applications, digital purses, and peer-to-peer payment systems, consumers may now save their cash, make investments, and pay for goods and services.

(2) New financial products: The two categories of financial products that have developed as a consequence of the application of financial technology are; There is the bot advisor, this is an online automated service that assists investors in making investment decisions that are suited to them and there is the crowd funding platform where people can invest in new businesses and other related activities.

(3) FinTech improves the access to better means of analysing data since with the help of the trend analysis like AI and machine learning one can make proper financial decisions. These technological advancements will put banks and other financial institutions in a better position to understand their clients' Needs and Wishes, hence enabling them to satisfy them with Personal Financial Services.

(4) **Enhanced competitiveness:** As to FinTech it is possible to speak about revolutionary situation as it introduces changes and new competition to conventional financial organizations. Historically competition brings out the best aspects hence cheap and quality financial products and services to the consumers.

(5) **Higher level of protection:** All trends of biometric and multi-factor identification are only a part of innovation that FinTech brought into the protection of monetary values and resource. This demonstrates how the aforementioned invention has improved the financial security of consumers against fraud and cybercrimes.

(6) Promoting greater access to financial services for people who live in remote places or have low incomes, for example, may not have had the opportunity to do so before, but FinTech services have helped to change that.

(7) **Save money:** Because they cut out the middleman and save operational costs, FinTech firms typically provide cheaper financial products and services. (8) Less time spent on transactions: Peer-to-peer payments and quick transfers are two examples of FinTech services where users might benefit from shorter transaction times.

(8) **Affordable, individualised financial guidance:** FinTech companies like robo-advisors can help people save money by offering investment management and personalised financial advice.

(9) Users are able to better comprehend fees, interest rates, and other financial terminology thanks to the increased transparency that FinTech services frequently offer in financial transactions.

FinTech has greatly contributed to the place Utility, Adjustability and Innovation of financial services, which has been of great benefit. influenced financial decision-making. But it has also brought new dangers and difficulties that the financial services

industry must overcome if it wants to keep growing. People, companies, and the financial sector at large can all gain a lot from utilising FinTech services (Gomber et al., 2017).

To sum up, the financial sector, companies, and individuals alike can reap several benefits from utilising FinTech services. Among these advantages are more openness, less red tape, more time and money saved, better security, more personalised financial advice, more accessibility, and more innovation. Given its continued development, it is anticipated that FinTech's influence on the industry will grow in the years to come. FinTech refers to advancements in financial industry technology that have altered the financial environment considerably over the past few decades. As a result of rapid technological advancements and ongoing innovation, FinTech is now a ubiquitous phenomenon that affects the formulation and execution of financial policies and choices. Research on how FinTech is developing and how technology affects people's capacity to make wise financial decisions is desperately needed. To begin, financial technology has spurred massive shifts in the financial transaction landscape, making a variety of financial services more accessible, efficient, and affordable. We still don't know how these changes will affect people's behaviour when it comes to making financial decisions, though. Because of this trend, we need to learn more about how shifting consumer tastes affect economic security.

Fintech an Evolution or Revolution

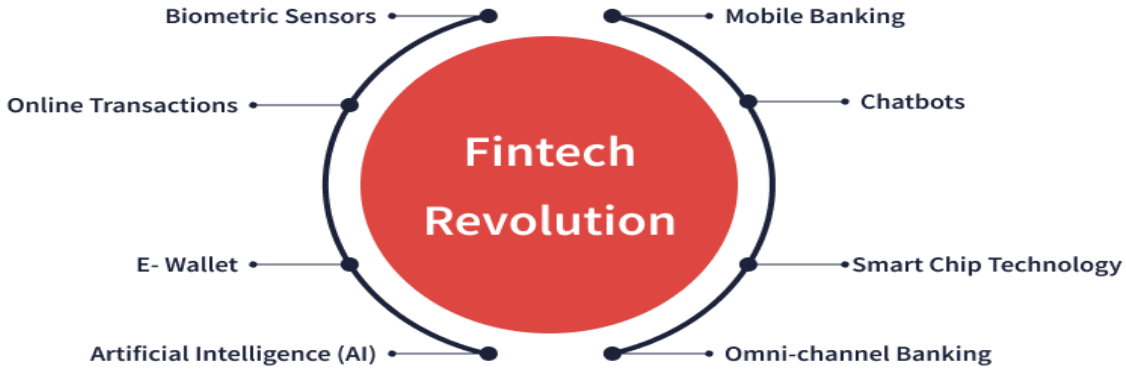


Figure 1.2: Fintech Revolution

Possessing strong adaptability and creative thinking skills is crucial in the ever-evolving financial technology industry. If the financial technology (fintech) sector can't adapt quickly enough to changing consumer needs and market conditions, it will fail to thrive. The financial sector is experiencing a commensurate acceleration in the rate of change due to rapid improvements in technology, laws, and economic trends. Businesses in the financial technology sector that want to be competitive must be nimble enough to respond quickly to changes in the market, change their strategies, and adopt new methods. These issues are heightened by the complexity of fintech, the increasing security vulnerabilities, and the ongoing need for adaptability. A familiarity with financial big data analytics, smart contracts, and blockchain technology is crucial for meeting these difficulties. Ongoing training, teamwork across disciplines, and vigilant technological surveillance are all part of the best practice set. To sum up, in order to thrive in this dynamic financial environment, it is essential to increase IT literacy. Because of Fintech's agility, businesses can respond rapidly to customers' evolving demands. Whether consumers are seeking innovative investment opportunities, tailored banking services, or specialised payment features, fintech can adapt its offerings to meet their needs. Financial technology industry innovators frequently demonstrate their work through iterative experimentation (Chikri & Kassou, 2024).

1.3 Tropology of The Fintech Industry

Industry 4.0, as its name suggests, is a paradigm shift in production that is driven by data and advanced technology, replacing traditional methods. In the next era of Industry 4.0, manufacturers will use data to boost productivity and efficiency. Key performance indicators (KPIs) are being reexamined in light of Industry 4.0, which is consistent with the European Central Bank's (ECB) call for more comprehensive metrics. Fintech is part of a larger financial industry trend that prioritises financial performance over risk

mitigation, control, and cultural factors. This disparity rings true with the problems that conventional banks have had in reacting to Fintech's growth. In the contemporary financial market, technological innovations, which may be go by the name fintech, are elements of Industry 4.0. On the other hand, the phenomenon that is disrupting the operations of typical financial institutions is also a perfect example of what the evolving financial structure and the nature of existing competition require more sophisticated and multi-faceted performance indicators. Continuing the discussion, it is necessary to state that the intensification of industrial production activity with the development of Industry 4.0 Consequently, one promptly obtains the following conclusions or requirements with regards to KPI: 0 Expressed in different terms, it is time to bring KPI benchmarks more in line with the ECB's advocated risk, control, and cultural views. Measures which can be applied in order to evaluate Industry 4.0 should represent this broad aim of a society that is more connected and enabled by technology. Industry 4.0 can be a threat and a potential, and the case of Fintech and the transformation it brought in the financial service provision is one of the threats. Thus, to meet the emerging and fast-changing challenges attributable to Industry 4.0: Institutions must shift the befitting KPIs in line with ECB's admittance that (Zizic et al., 2022).

Fintech Regulation Impact

Determining the influence of Fintech advances on the financial services industry and investment choices is a problem about Fintech and related subjects such as taxation and regulatory compliance (Anifa et al., 2022; Benny Alexandri et al., 2023). Firm-specific Fintech investments are thus rising progressively across the globe, calling for unearthing Fintech picture and its implications on investment decision making (Anifa et al., 2022; Benny Alexandri et al., 2023). Also on the agenda of research, there are such topics as the strategic options of Fintech platforms and their position in providing competitive advantage

and legitimation, where an understanding is needed of how to manage effectively the opportunities and threats of the Fintech payments in the PFM (Griffin et al., 2023; Ng et al., 2023). In addition, knowledge of the RegTech solutions, their evolution, their consequences for AML compliance and future prospects of financial crime is another essential element that determines the trends of the development of the regulatory environment (Kurum, 2023). To sum up, Fintech, taxation, and regulation need to be discussed as the intersection of all three fields is highly ambiguous and its analysis requires a consideration of both economic and technological aspects, as well as regulatory challenges. Knowledge of how Fintech affects the financial sector, the constantly changing structure of regulation and its effects on compliance, procedures and investment decisions is vital in this new environment. It is expected to spur radical changes in the financial sector to enhance the quality of financial services, make services cheaper, and offer a better and more diverse form of credit facilities for the people (Nguyen, Dinh and Nguyen, 2020). Prospective alterations in the banking and financial services, netted by fintech that involves a down-turn in the cost of services, an expansion on the variety of feasible services, and a predictable structure within the organization and the market (H. Y. Mohamed et al., 2021). Fintech development does, however, come with certain challenges, particularly when it comes to risk and regulation. Government agencies require an appropriate balance that will ensure the promotion of fintech businesses while, at the same time, preventing any occurrence of negative consequences that may affect the financial industry across the market system (Najaf et al., 2021; Omotoya Bukola Adeoye et al., 2024).

Financial Operations and Risk Management

The role which Fintech plays to the functioning of financial institutions regarding operation efficiency, financial inclusion, risk management, regulation barriers, employment, partnerships, data protection, vulnerability, consumer behavior, global

financial inclusion, and ESG principles of the management. Fintech has introduced new degrees of efficiency to the financial organisation and it is apparent that all the procedures can be simplified, changes, and can also increase security. There has also been improvement in financial inclusion through the use of Fintech, which has removed barriers concerning geography and underlined the growth particularly in Asia-Pacific and Africa zones. However, it raises challenges in the aspect of security and threats in relation to the need to innovate for organizations as well as decrease risks. Some of the factors that were found to relate to the effects of financial technology on institutions are as follows; automation of processes and digitalisation, enhanced customer relations, costs and risk amongst others.

The financial sector has grown thanks to a new framework called FinTech; the use of IT in financial reporting, auditing, and accounting has sped up the completion of these important processes. Fintech's major deliverables are in the themes of operational effectiveness, both through mechanization and digitization. Through the applications of advanced technologies including artificial intelligence and Blockchain the efficiency of some of the operations is enhanced through decreasing the time taken in the processing of various financial transactions. Latterly, digitalization also helps to reduce the time spent on these activities and to cut the probability of mistakes, creating the financial environment which is more stabilized and protected. As financial institutions integrate Fintech in their services, business processes achieve higher efficiency that brings positive outcomes for both sides of the financial services' market and consumers (Natia Shengelia et al., 2022). Fintech is very instrumental in encouraging the uptake of financial services among the unfit hitherto the traditional financial institutions could not reach. Prominent mobile banking and digital payments can help institutions go a notch higher by bridging the geographical constraints and reach out for the financially excluded populace. Fintech has ensured a very

big step in the enhancement of financial inclusion with higher achievements in Africa and Asia- pacific nations (Khera et al., 2022). Democracy in financial access is beneficial in the provision of finances to those in need, encouraging development of businesses and eradicating gaps. Thus, Fintech plays a role of one of the drivers aimed at positively influencing the inclusion of individuals in the sphere of financial operations.

Consumer Interface

The financial industry has known a tremendous change mainly because of the rise of the known financial technology or fintech. Technological developments that falls under Fintech can be classified from the evolution of mobile payment solutions services from robo-advisors up to Blockchain-based cryptocurrencies and P2P lending platforms. Explorations have brought democracy to financial services, making consumers and enterprises all over the world efficient, accessible, and cheaper. Fintech innovations, in this sense, are all innovations related to modifications and the creation of technological solutions in the financial sector that allow for the improvement of financial services and their automation. Mobile payments, digital wallets, contactless card payments, and payment apps and systems have transformed the user-merchant and business-consumer interaction for efficiency and course convenience. Some of the techniques used are crowdfunding, online marketplace lenders and peer-to-peer lending, which remove intermediaries from the loan and borrowing process and put investors and borrowers in direct communication. Self-sustainable transaction systems are made available by blockchain technology, which forms the core of most cryptos like ETH and BTC. This particular technology has the ability to replace existing pay systems and allow for new types of digital currency and self-executing legal agreements. The previously complex fields of financial planning and wealth management are gradually moving into the mainstream member area due to various algorithm-based methods that provide cheap

approaches, including investment guidance and portfolio management. AI in underwriting, usage-base insurance and digital insurance platforms are some of the ways of improving client experience, cutting bills and optimizing the insurance industry's operations. The possibilities of employment of various fintech technologies are vast but the challenges are also enormous and specifically relate to regulations. Fintech is a regularly progressing industry at present and is a disruptive industry as well and hence first there is a requirement of regulating the industry so that the customers are safe, economy is stable and innovation can happen. The roles of regulations are to protect the customers from fraud in fintech products and services, unfair treatment or existence of systematic risks. Regulations can be trusted and depended on by financial market participants because they ensure efficiency, equitable, and transparency in the market. This is because risks are regulated through a supervisory approach to financial stability concerning Fintech activities, including cyber threats, operational failure, and threats to traditional financial institutions. Good regulations offer guidance and stimulate an innovative approach to fintech businesses' operations while adhering to legal norms.

1.4 Fintech Usage in India

The interconnection between user views on status, risk aspects, and FinTech platforms' continued use have been thoroughly evaluated. Further studying these aspects enabled demystifying the challenges that users encounter and emphasising that perceived risk plays a crucial role in people's decisions regarding continued usage of FinTech services or their cessation. This realization went a long way in enhancing the comprehension of the numerous cross-sectional behavioural and psychological barriers and drivers to adopt FinTech innovation in India. This meant there was a level of scepticism towards FinTech services ranging from low to high that affected the consumers' willingness to engage in its services. Organizational influence is discussed in the context

of the analysis which helps in deciphering the balance while making decisions regarding adoption by weighing advantages against potential threats. To enhance the FinTech sector in India, it became imperative to realise these dynamics and work on the strategies that focused on the factors that enhanced 'perceived value' and diminished the 'perceived risks.' The user limitations, the patterns for adoption and their perception about FinTech were studied by Sakhare et al. (2023) to have an understanding of the range of factors affecting the use of Finteck. Understanding of the interconnected complexity of factors affecting users in India, comprehensiveness in identifying obstacles and enablements involved in users' decisions. The perceptual elements of consumers' experience as evidenced by the analysis showed me that it was possible to pay attention to certain constraints that arguably may have slowed down the FinTech adoption process. This might have included things such as trust issues, legalities, or technological constraints. Overcoming these limitations was important in a process of tailoring the FinTech offerings to the peculiarities of the Indian market and, therefore, create a favourable environment for extensive application. Perceiving risk, perceiving benefit, and generation cohort in digital banking adoption in India, as described by Jain and Raman (2023) delved into the generational distinctions that influenced users' perceptions and behaviors towards FinTech. It was critical to comprehend the attitudes and behaviours of different generations with relation to the benefits and limitations of virtual currency in a nation with a heterogeneous populace. The age cohorts had a massive impact on the interaction dynamics among the adoption systems. There are certain peculiarities with regards to the individual requirements and problems of different generations which emerged as critical for developing targeted strategies compatible with the heterogeneous users of FinTech services that would help to build a more hospitable environment for its development in India. With a revised model of TAM, FinTech use as found by Singh, Sahni and Kovid (2020) is

considered under the following factors. Their approach aimed to identify the factors driving FinTech adoption. In India, users faced challenges related to technology adoption, website usability, and trust. Among these, security, usability, and overall user satisfaction significantly influenced their choices. To boost FinTech adoption in India, they emphasized the importance of addressing these key concerns.

1.5 Fintech Market in India

One of the most important metrics used by analysts to assess a company's competitiveness is its market share. Furthermore, these prominent organisations will be conducting extensive purchasing sprees in order to rapidly attract new clients and expand into new markets, necessitating full-stack solutions. India is a global leader in financial technology (FinTech), with over 2,100 companies and a FinTech adoption rate that ranks among the highest. This dominance is due to the country's innovative digital infrastructure projects, its vibrant venture capital (VC) scene, and its favourable demographics, which include a youthful, tech-savvy populace and an expanding middle class. Investors from around the world have poured billions of dollars into the Indian fintech industry because they are optimistic about its future. In 2021, FinTech funding exceeded US$8 billion, driving start-up valuation to new levels, according to data from Invest India, the national investment promotion and facilitation agency. At least seventeen financial technology companies with valuations of $1 billion or more call this nation home. A plethora of smaller, rapidly expanding start-ups are also creating waves in the market, drawing attention from investors all around the globe. FinTech refers to neo-banking systems that offer customers digital banking services. One outcome of the digital revolution and globalisation is the FinTech banking system. Digital banking grew in response to the COVID-19 outbreak and subsequent lockdown, giving rise to FinTech enterprises. Since it is an integral aspect of contemporary living, this sector has seen the organisation of

multiple start-ups. Money can be sent and received instantaneously by users, no matter where they are. FinTech companies are increasing the efficiency with which they provide banking services by employing cutting-edge technologies such as machine learning, loT, and artificial intelligence. In the previous five years, 1400 of India's approximately 2100 FinTech enterprises have come into existence. The current community requires paperless and cashless transactions to save time, hence many banks are now partnering with FinTech companies. In the new millennium, the phrase "FinTech" was coined to encompass the creation and use of digital currency. When it came to handling their money, both consumers and business owners reaped the benefits (Mumthas, 2022).

1.6 Different Fintech Segments in India

As a nation's economy grows wealthier, the use of currency begins to decline. The degree of education and disposable income in an economy are directly correlated with the use of credit and debit cards as well as other electronic payment methods. The abundance of cutting-edge platforms that provide alternatives to cash transactions encourages people to choose the finest payment options. Government laws and regulations have been changed and amended in recent years to accommodate the modern payment system. To encourage more customers to use digital payment systems at merchant point-of-sale terminals, standards for seamless security are being developed. India is seeing rapid growth in the financial technology (fintech) sector, which deals with advanced payment-based systems. Fintech firms offer a wide range of financial services, including lending, insurance, asset management, broking, cryptocurrency offerings, underwriting, and more, in addition to easy and quick payment processing. By embracing fintech, well-known financial institutions may reach every corner of the nation with their revolutionary, cashless, branchless, and human-absent payment and fund transfer services via wireless media. Indian banks, fintech firms, the government, and payment authorities all work together to

provide digital payment services. The millions of Indians who use digital payment systems have finally come to trust and rely on them. In comparison to the global average of 64%, India's adoption rate of fintech technology stands at 87%. Forecasts indicate that by 2025, the size of India's fintech market—which includes new startups—will have increased from its 2021 valuation of US $50 billion to US $150 billion. It is projected that by 2025, the whole market for fintech services, encompassing all types of services, will reach US $1.3 trillion. From 2014 to 2024, this financial service in India distributed about $22 billion to 550 firms. The everyday person, as well as small and major businesses, have been profoundly impacted by fintech services. India is third among the world's leading providers of financial technology services, behind only China and the United States. Many factors contribute to the expansion of financial technology services. These include: a large and growing youth population; high rates of education and urbanisation; a readily available labour force; government policies that encourage and facilitate investment; and the availability of capital. India's financial sector is still in its infancy, and many citizens lack access to even the most basic banking services. To help change this, we can educate the public about secure and convenient payment options for in-store and online purchases, as well as for sending and receiving money.

Pay Tech

Payments used to be discrete, one-time occurrences, but in the post-pandemic era, they are invisible and ingrained, facilitating better consumer experiences in collaborative environments. According to consumer surveys Belanche, Guinalíu and Albás (2022); Lim et al. (2019) paytech is the most significant and rapidly expanding subset of financial technology services. Improvements in profitability and productivity are being achieved through the use of paytech approaches, which are presently lowering the challenges of traditional (paper-based) processing and improving the management of regulatory,

compliance, and cost-based duties. Despite the widespread impact of the pandemic on businesses, the already dynamic payment environment was hit particularly hard by the emergence of lockdowns and economic uncertainty, which caused multidimensional disruption. But customers were demanding digital experiences comparable to those they had seen from competing service providers long before 2020. Because of this, the need for easy omnichannel payment services is now more pressing than ever before, thanks to COVID-19. User experience (UX) was improved, disintermediation was deepened, and earnings for payment service providers were hurt as a result of new, user-focused solutions and innovative business strategies introduced by paytech and industry newbies in response to the growing problem. Thus, it is imperative that paytech services work in tandem with more conventional payment systems and financial infrastructure, including those of banks and card firms (like VISA). Since paytech services must be compatible with both the infrastructure and existing payment services, their debut is more of a convergence than a replacement. Paytech services can be easily adopted by a large number of users thanks to this interoperability (Kang, 2018). Furthermore, Paytech providers need to limit the expenses related to implementing a new technological environment in order to enhance the availability of banking services (Broby, 2021). In order to meet unfulfilled consumer needs and close gaps, financial institutions and payment processors must quicken their pace of development. Businesses that are adaptable, creative, and visionary will thrive in the years to come. New innovators and business models are emerging as a result of the ongoing growth of digital payments. Regulators aim to give businesses fair play and customers a risk-free environment. The paytech industry has a lot of room to grow and compete. New payments should be seamless and feature-rich. According to Liébana-Cabanillas, Sánchez-Fernández and Muñoz-Leiva (2014), users of paytech solutions have a positive impression of these solutions due to their friendliness, ease of use, speed, affordability, and the sense

of belonging they provide to a diverse and inclusive online community. when it comes to the overall quality of the experience, the application for making P2P payments to friends and acquaintances is the most well-liked by Spanish Internet banking customers. PayPal is the most popular app for in-store and online purchases in west, while Bizum, Twyp, and Verse are the most popular apps for making payments between individuals in Europe. In 2021, Bizum announced on its website that it had over 19 million users and that the total amount of transactions was over 40,000 million euros since the platform was launched. With nearly two million members, Verse State outpaces major competitors like Revolut and N26 to become Spain's leading fintech business outside of banks. The significant transaction volume of Twyp led to its integration into the ING platform in the summer of 2022. Twyp offered instant transfers through a separate app for a nominal fee of 2.99 €/month. It is crucial to investigate the factors that have led to the success of P2P payments because they are gaining traction and fintech companies are attempting to capitalise on them (Belanche et al., 2022). Because of the networking effects among users and the heavy reliance on technology, there is a lot of competition for dominance in this "winners-take-all" market. Thus, additional research is required to help paytech companies identify their unique advantages and become industry leaders in P2P services. P2P payment implementation challenges and precursors are not the same as those of mobile-based payment systems. according to (Liébana-Cabanillas et al., 2021). According to Li and Xu (2021), P2P systems stand out from the crowd of mobile payment systems due to their distinct features. All of these points show how important it is to examine the spread of P2P payments in more detail. Furthermore, while online networks provide a wealth of information about consumer service and product usage, very few studies have delved into this vast data field to determine what factors are encouraging the use of paytech services (Al-Qudah et al., 2020; Balakrishnan & Shuib, 2021; Kar, 2021; Liao & Yang, 2020). In

addition to detailing the actual experience of using the payment service, evaluations posted online can also serve as a suggestion to other people looking to use the service, making them a two-in-one resource. Having said that, online comments provide a challenge due to their lack of structure and the significant cognitive and time costs associated with manual analysis (González-Rodríguez et al., 2016). Potential consumers face difficulties in assimilating and interpreting such a large amount of information due to the variety and abundance of internet resources. Research by Heng et al. (2018) has elucidated the manners in which internet reviews influence consumer choices in the travel and tourist, lodging, healthcare, internet retail, and food industries. However, there is a dearth of research in the banking industry that attempts to catalogue the factors that reflect or predict consumer happiness as per internet evaluations. Much of the user-generated content that is easily accessible on online consumer review platforms is still going unused in the financial industry, according to (Mittal & Agrawal, 2022). There is a dearth of research on banking services that examines client happiness through online reviews, which we call attention to (Perea-Khalifi et al., 2024).

Lend Tech

Knowing what your customers want is more important than ever in the modern business world. Numerous user-generated insights have been developed as a result of the direct connection fuelled by Web 2.0 and social media. Businesses use this information to improve their products and services (Nave et al., 2018). Installed on smartphones and other mobile devices, mobile apps provide users with user-friendly interfaces, which is crucial for attracting and retaining clients. There are free and paid alternatives available in app stores such as Google Play and the Apple App Store. Consumers and programmers alike can learn a lot from reviews posted by actual users of these apps in the form of star ratings and textual comments. Customers can rate the app's quality, and developers can learn a lot

about the app's pros and cons. The customer-centric strategy in the era of mobile apps is characterised by dynamic two-way communication. The enormous world of internet comments can be analysed with textual analysis, topic modelling, and sentiment analysis to uncover important traits, themes, and even emotional undertones. This ability has wide-ranging applications, from analysing tourist experiences to predicting stock market mood. Opinions matter greatly in the field of alternative finance, where models connect traditionally unbanked people with mainstream financial institutions. Crowdfunding is a good example because it uses a novel method to market disruption. Crowdfunding democratises fundraising by collecting tiny donations from many people, thereby avoiding middlemen. The success of debt, equity, reward, and donation models of crowdfunding projects depends on the favourable feedback and ratings from users. Peer-to-peer (P2P) lending is an alternative finance model that uses debt to facilitate direct transactions between lenders and borrowers, bypassing traditional financial institutions. Pioneering peer-to-peer (P2P) systems such as Prosper (2006) and Zopa (2005) drew inspiration from older file-sharing models such as Napster (1999). Using the data provided by borrowers on the platform, lenders may make educated selections. Borrowers might enjoy reduced borrowing rates and lenders can earn better returns using P2P networks, however these platforms do not ensure loan repayment. These platforms reduce expenses and increase access to loans by avoiding conventional banks. Their openness, flexibility, and ease are lauded as superior to those of banks. P2P lending, which had a global volume of USD 68.3 billion in 2019 and 2020, dominated the alternative financing business.

Digital banking

Numerous economic areas stand to benefit from the prospects presented by the transition to financial technology. In recent years, developing nations' financial technology and mobile money services have experienced tremendous growth. The rise of digital

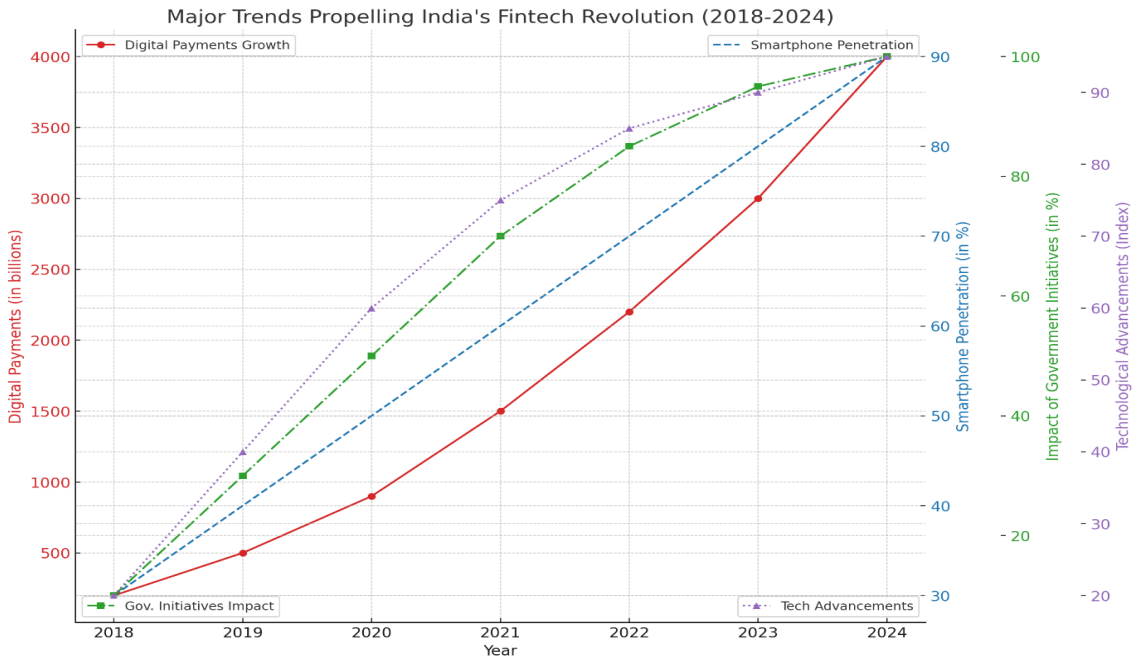
transformation has led to some significant advancements in the financial sector, including the emergence of digital wallets and mobile money. These innovations fill a need in the economic infrastructure and remove geographical barriers, allowing users to conduct reliable and affordable financial transactions. Closing the gap between the banked and unbanked is another possible purpose for them. The vast majority of people in India reside in rural and semi-urban areas, where official financial services are unavailable to them. On the other hand, FinTech company owners are transforming that. By making life easier for small businesses and merchants, they are bringing online banking and financial services to underserved areas. Aeps, digital ledger apps, digital payments, and investments are just a few examples. Many of these FinTech companies also serve as financial educators, teaching their customers how to invest and create a budget. By leveraging technology and creativity, FinTech companies are connecting underprivileged communities to established banking infrastructure. They promote financial inclusion and empower individuals to build a better future for themselves. The amount of research on financial technologies (FinTech) expanded dramatically when these measures were implemented. FinTech, defined as the combined evolution of finance and technology, includes cryptocurrencies, Internet banking, mobile payments, crowdfunding, peer-to-peer lending, Robo-Advisory, online identities, and many more noteworthy innovations. Because blockchain's potential is dependent on the widespread adoption and growth of the network, Dang and research emphasises the importance of viewing blockchain as an ecosystem.

1.7 Major Trends Propelling India's Fintech Revolution

In 2024, India's fintech revolution is being driven by several key trends, as depicted in the accompanying graph. Digital payments, particularly through UPI, continue to see exponential growth, with transaction volumes surpassing billions monthly. Millions of people have entered the formal financial system as a result of government programs like

Digital India and the Jan Dhan Yojana, which have greatly increased financial inclusion. The RBI and SEBI have provided a favourable environment for fintech: appropriate legal requirements and safety measures have been established. AI, particularly the use of ML, the incorporation of blockchain solutions are helping with the increase of service customization, and countering of fraud as well as improvements to transaction security. High mobile phone usage, the relatively low cost of mobile money, availability of mobile money services, advancement in Internet Technology has pulled the isolated people in the rural and semi-urban area into the Finance Technology solutions and hence Fintech For Digital Financial Services. New generations are increasingly more inclined to use the digital solution in their financial lives, making neo banks and open banking with API integration more popular. Open partnerships as well as cooperation between fintech companies and incumbent firms, and backed by incubators and accelerators help to scale innovation. Other financial education initiatives are therefore informing the consumers regarding the need and ways of embracing the digital financial services thus boosting the client base. The main areas of attention are related to cybersecurity; innovations such as biometric authentication enhance the protection of electronic transactions. Financial services are also becoming more individualised and inclusive with the growth of wealthtech products like robo-advisors, peer-to-peer lending platforms, and microfinance.

The graph illustrates the exponential growth in digital payments, the steady rise in smartphone adoption, the expanding impact of government initiatives, and the significant advancements in technology, all contributing to the dynamic and rapidly evolving fintech landscape in India.



The graph above illustrates the major trends propelling India's fintech revolution from 2018 to 2024:

1. **Digital Payments Growth:** Signifying the digital payment, the graph with red circle at origin shows has been rapidly increasing to 4000 Billion by 2024.
2. **Smartphone Penetration:** The blue dashed line with ‘x’ markers represents the mobile smart penetration, which had a ratio of 0. 3 in the year 2018 and is projected to reach a ratio of 0. 9 by the year, 2024.
3. **Impact of Government Initiatives:** Green shaded figure with dotted line and square markers reflects the contributions/weightage of each layer referring to effects of government initiatives are rising gradually from 0. 1 in 2018 to nearly 1 by 2024.
4. **Technological Advancements:** Highlighted with the purple dotted line with triangle markers, the technological capital has also increased considerably to attain an index of 95 in the year 2024.

These trends are set out on following pointers explaining the continuously changing and growing nature of Fintech industry in India due to advancement in technology, availability of internet and support by government.

Supply Side Factors

The expansion of financial technology in India is being driven by a confluence of macroeconomic factors. These include efforts by the government and regulators, the country's growing middle class, an expanding e-commerce sector, more internet access and smartphone penetration, a large portion of the population that does not have a bank account, and many more.

Both from a regulatory and an enabling aid standpoint, the backing of the government has been critical. Several government initiatives, such as digital literacy and financial programs, broadband infrastructure to improve internet access in rural areas, and so forth, can be blamed for the acceleration of Fintech business expansion in India. Regulatory sandboxes for fintech by RBI and IRDAI, licenses for payments banks, Jan Dhan Yojana, India Stack, Digital India program, Startup India, National Common Mobility Card (NCMC), and E-RUPI are a few examples of these projects. India's technology revolution has been aided by a strong public digital infrastructure, which includes Aadhar, UPI, account aggregation, and other features, as well as a supportive legal climate. To improve transparency and guarantee that digital financial services are both safe and reasonably priced, the Reserve Bank of India (RBI), the Indian Revenue Development Authority (IRDA), and the Securities and Exchange Board of India (SEBI) have all taken action. As of October 2021, 261 banks had joined the Unified Payments Interface (UPI) in India, which records 4.21 billion transactions every month valued at over US$100 billion.

As part of the second round of its regulatory sandbox framework, the Reserve Bank of India has chosen Open Financial Technologies Pvt Ltd to develop an international

payment system based on blockchain technology. The company in issue intends to employ the cross-border payment system in the RBI's regulatory sandbox using Hyperledger Fabric, an open-source blockchain platform running on Linux. Cross-border money transfers are offered by both the Rupee Drawing Arrangement (RDA) and the Online Payment Gateway Service Providers (OPGSP); the former is intended for individual remittances, while the latter is specific to exporters.

Demand Side Factors

Fintech has made a name for itself by using cutting-edge technology to cater to individual preferences, at the same time that the financial services sector is moving away from a transaction-based model and towards one that is more customer-centric. A new generation of tech-savvy Indian consumers, the millennials in particular, are driving demand for mobile-first goods and services. Mobile banking apps have replaced traditional banking methods like cards and wire transfers in many parts of the country, especially in smaller towns and tier-2 and tier-3 cities. Also, new consumers tend to be onboarded more easily in the smartphone banking area.

Further, by creating jobs and offering alternatives to the problems caused by conventional funding methods, fintech is helping to level the playing field in India and democratise access to higher education. More than six thousand young Indians will be trained in fintech over the course of six months by Paytm and the skill development ministry, according to a memorandum of understanding (MoU) signed on December 9, 2021. Eligible participants will also be offered employment opportunities.

Research shows that women in India are saving and investing more money as a whole thanks to the rise of mobile apps, wallets, and platforms, so it's safe to say that fintech has helped level the playing field when it comes to access to credit.

Based on their estimations, 22 million Indian customers applied for loans every month before COVID-19. However, due to problems, 70% of these consumers withdrew their applications in the middle. Modern fintech is standardising small, everyday transactions on credit through platforms like buy now pay later (BNPL), making it easier for individuals to get the credit they need. You can see this trend towards smaller-scale credit financing in action with apps and procedures like Simpl, Lazypay, Flipkart Pay Later, Scan Now Pay Later, and many more (Abhishek, 2024).

1.8 The Unbeatable Combination of Artificial Intelligence Machine Learning, Blockchain and Fintech

The banking industry is experiencing heightened security concerns due to the increasing volume of digital transactions and cyberattacks. Traditional security measures are no longer adequate to combat sophisticated attacks, necessitating innovative solutions. Security concerns have reached critical levels within the banking sector, driven by the rapid expansion of digital transactions and the proliferation of sophisticated cyber threats (George et al., 2024). Traditional security measures, which were once considered sufficient, are now struggling to keep pace with the evolving tactics employed by cybercriminals (Brender et al., 2024). For this reason, awareness is rising among practitioners that dynamic and creative approaches are needed to protect other financial institutions and customers from constant threats of cyber-crimes (Chinwe Chinazo Okoye et al., 2024). They explain why existing security measures are ineffective against the present day's cyber threats and why there is need for a fundamental change in the approach towards security. Against the backdrop of significantly rising security threats, the introduction of such innovative solutions as AI, Blockchain, and BI becomes critical and can be regarded as one of the most effective directions for banking security development in the future (Chioma Ann Udeh et al., 2024). The integration of AI, Blockchain, and BI

are now taking security from the concept of ‘detect and prevent’ to ‘predict and prevent’ (Sakhawat et al., 2024). Thus, based on algorithms and machine learning, AI strengthens the defenses of banking systems and promptly addresses threats. Through constant processing of Big Data, the AI algorithms are in a position to look for a pattern that suggests that someone is implementing a breach in the banking systems, thus making it easier for the banks to prevent such breaches from becoming major security breaches (Tahmasebi, 2024). On the other hand, blockchain presents a credible and distributed records database that guarantees the accuracy of financial transactions. The cryptographic concepts ensure that altering the information that is transacted can be nearly impossible therefore minimizing the cases of fraud and extra access. Due to the features of Blockchain implementation in banks’ operations, the firms can improve the level of protection of their interactions; besides, the applied security measures can be less expensive compared to the traditional ones. BI supportive of AI and Blockchain gives details extracted from analysis of big data and provides appropriate actions in response. In particular BI tools help banks fathom their security condition, detect weaknesses and act on the analysis provided in the most efficient way. When it comes to the application of BI in the banks, it is possible for these institutions to change or adapt various strategies based on BI information and discover that security measures and risk management have improved significantly and can be managed more effectively. Altogether, the use of AI, Blockchain, and BI signify the dawn of preventive and dynamic security in banking. It brought the beginning of a new comprehensive security strategy and proves the industry’s readiness for addressing new challenges that the innovative threats could pose. By embracing these innovative technologies, banks can fortify their defences, safeguard customer assets, and maintain trust in an increasingly digital and interconnected financial landscape (Oluwatoyin Ajoke Farayola, 2024).

Use of artificial intelligence in fintech

There has been a sea change in the provision, utilisation, and management of financial services as a result of the integration of AI with Fintech, or financial technology. Artificial intelligence (AI) offers numerous strategic advantages that might send the banking industry soaring to new heights. Financial data can be analysed in a more sophisticated way with the use of artificial intelligence, which can reveal trends and forecast impending market developments in real-time. Thus, the expert system enables banks and other relevant financial organizations to have strategies that use the most recent and relevant data to make better decisions in future. The fact that fraud detection is using AI algorithms to handle the the problem is an added advantage. In this way, examining the behaviour of the actors, looking at the suspicious purchases, and enhancing financial transactions' security, these smart technologies provide strong guards for both institutions and clients. AI reviews customers' spending patterns and investments, among other factors, and offers individualised solutions. Customers are hence benefited from this relatively personalized financial advice that are provided depending on the client's circumstances. Business processes may also be a beneficiary of artificial intelligence since they may be automated. It enhances the performance of financial operations since most errors and time-consuming processing are a thing of the past. Activities such as document handling, compliance review and portfolio tracking can be done faster and with better precision because of this. Tests have shown that AI-based solutions are much more efficient when it comes to evaluating the borrower's credit rating. It assists in the achievement of the goal of financial inclusion since it goes a long way in pacifying lenders and making loans more available. Next, the AI predicts the market based on historical data and then, depending on the investor's tolerance for risk, determines further actions. Good portfolio management together with proper and effective allocation of the assets according to the needs of a single

investor increase investors' confidence. Applications in the area of fintechs are made possible with the help of artificial intelligence, which is able to individualize products according to users' preferences and activity. responsive features and its interfaces immediately result in effective utilisation of the application and a loyal customer base among the happy users. Fintech aided by AI is not only a breakthrough in social loans, but it also enables the underbanked regions to have banking facilities. Perhaps, new opportunities could arise through the employment of advanced digital solutions which erased the mentioned barriers to gain necessary financial services. Thus, by adopting the AI models that allow predictive risk analysis, the financial organisations will be able to act in advance to avoid the loss. In other words, this approach makes all the links in the financial system more solid and less vulnerable to the negative impact of an economic crisis. There are numerous advantages that banking will achieve from the integration of Fintech and AI, for instance; In the cases where there is the development of new products, security of transactions, efficiency of operations, and timely provision of services to clients among others. This junction has the possibility to introduce a new age of intelligent and adaptable finance services within the context of modern day's electronic environment which would be highly advantageous to the finance industry.

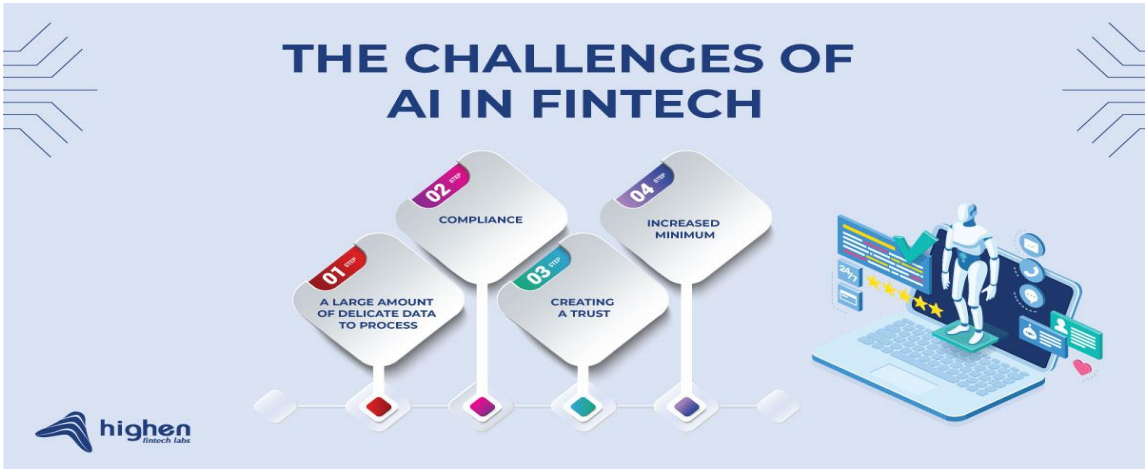


Figure 1.3: Challenges of AI Fintech

Benefits include improved financial decision-making, more personalised service, and reduced operational costs when predictive analytics, financial service customisation, and automation of repetitive operations are combined. Using predictive analytics powered by AI might help evaluate financial data and market movements more precisely. Financial institutions are able to make informed decisions, better anticipate market movements, and conduct extensive risk assessments thanks to their sophisticated models. The overall optimisation of financial decisions is enhanced, as is the management of investments and the evaluation of debtors' solvency. Integrating accurate customer data with predictive analytics enables highly personalised financial services. Knowing each customer's individual circumstances, spending habits, and long-term financial goals may help financial institutions provide better service. Personalisation can improve the customer experience and encourage loyalty in many ways. Some examples include investment advice, loan payback programs, and savings alternatives. Using AI to automate repetitive tasks is one effective strategy to reduce operational expenses. By automating routine tasks like document management, compliance verification, and portfolio management, human resources can be freed up to focus on more complex and creative projects. By streamlining processes and cutting down on errors, this automation helps save money over time. Financial institutions may use these benefits in tandem to improve the accuracy of their decisions and the proactiveness of their client service. The focus on automation and customising in this strategy enhances operational efficiency while also boosting customer trust in the given financial services. When predictive analytics, personalised services, and automated repetitive operations work together, the financial industry will enter a new era of efficiency and flexibility (Chikri & Kassou, 2024).

Artificial intelligence in portfolio management

The goal of portfolio management is to help investors achieve their financial goals by constructing and modifying investment portfolios according to their risk tolerance and desired rate of return. The planning layer comes first in the procedure. The asset manager is tasked with overseeing a particular portfolio in accordance with an investment policy by the asset owner, who is often an institutional customer such as a pension fund or a client of wealth management. This obligation is defined by the investment policy. To accomplish a certain reward objective within a specified risk threshold, it details the client's requirements, context, and limitations. This investment policy incorporates strategic asset allocation. The SAA is usually stated as the maximum and minimum allowable asset class allocations. It is also necessary to identify the risk capacity and risk tolerance. The execution layer is the second stage of the process of managing a portfolio. In order to carry out the strategy, one must first investigate the risk and return features of various asset classes and nations' macroeconomic situations. "Tactical asset allocation" refers to the process by which capital is distributed among various asset classes and nations. Using security analysis, one can build a portfolio and make trades by selecting individual stocks from each asset class in a cross-sectional fashion.

Figure 1.4: Portfolio Management Prosses

With the process of globalisation, the connections between the financial markets, and the ongoing volatility of the market, new difficulties to portfolio management have

evolved. These are geopolitical risk, risk that can spill over, risk that can take another route, and last but not the least, the systematic risk. The banking industry is one among many industries that has been disrupted by AI in the recent past. The business advantages of using AI in the management of portfolios are as follows: The presence of AI has the potential to solve the problems of ineffective portfolio creation, eliminate the shortcomings of using other methods of developing portfolios, and open new opportunities for creating alpha. For instance, through ML, it is possible to create systems that can incorporate experience and hence design models for the anticipation of the value of these assets. As for the creation of the theory for the subsequent and dynamic portfolios, one of the most effective methods of choice is reinforcement learning (RL). Incorporation of new market news also provide benefits through text mining and selected sentiment analysis to portfolio management. A larger variety can be obtained through the employment of the dimensionality reduction techniques, which find features across a broad range of asset values. Therefore, using a small set of assets, deep learning can mimic the construction of an index or improve an existing one. Otherwise, AI-generated portfolios are superior to the traditional ones out of sample in terms of the estimation of the returns and risks of assets and the solution of optimisation problems under constraints. Regarding technology the main players in the financial industry are applying AI in operations to automatization and increase productivity, managing large amount of data, managing the risks, and offering solutions tailored to investors' needs with regard to risk. In contrast, black-box models, rather than mathematical equations trained on a database, are typically the source of decisions in AI-based portfolio management. That makes it much more difficult to gain the confidence of shareholders, investors, and portfolio managers by providing an explanation and analysis of AI judgements. The main objective is to find and assess research articles that suggest AI-based strategies for building investment portfolios. In order to address these concerns,

the paper reviews the benefits and drawbacks of prevalent approaches to portfolio development. In addition, to emphasise the significance of decision transparency and fairness, a case study of post-hoc explanations for portfolio building is shown, and methods in the laminable artificial intelligence (XAI) field are briefly reviewed. The current investigation expands upon a prior survey, Bartram et al. (2021) that looked at ML methods and practical outcomes that were applicable to APM. The authors of the research explored several reinforcement learning applications, natural language processing (NLP) uses, and signal generation using ML. There may be an uptick in interest from investors in active AI-driven ETFs. Nevertheless, the issues surrounding the optimisation, assessment, and rebalancing of portfolios, as well as the explain ability of portfolio performance, remain unresolved. The use of artificial intelligence in asset categorisation and prediction is the primary topic of another review that CFA has released lately (Bartram et al., 2020). Furthermore, natural language processing (NLP) is showcased for the automated examination of news articles, company annual reports, and Twitter messages. Examples of portfolio optimisation projects utilising artificial neural networks and evolutionary algorithms are given, enabling the flexibility to handle intricate multi-objective asset allocation challenges. The most significant developments in the application of experimental methods to the study of financial markets were highlighted in another literature analysis (Nuzzo & Morone, 2017). Although there isn't a clear link between their work and portfolio management, they look into the stylised return distribution, consider the role of market institutions in trade, and raise significant questions about the information release and market structure (Sutiene et al., 2024)

Machine learning in Fintech

Machine learning (ML) technologies are now being used by numerous banking and insurance organisations. The use of ML algorithms in consumer finance (by enhancing loan

underwriting and predicting, assessing, and reducing loan risks), corporate finance (by preventing money laundering), and personal finance (by using chatbots that use natural language processing or provide personalised insights for wealth management) could save financial institutions an estimated $447 billion by 2023. Specifically, machine learning has been utilised in various applications within the financial technology industry. These include evaluating personal credit risk, establishing lending criteria, creating credit scoring models, managing optical mixing assets, and even using crowdfunding to predict the success of fintech projects. The financial technology industry, bolstered by machine learning, shows great potential for expanding access to banking services. A global survey on artificial intelligence (AI) in financial services was conducted in cooperation between the World Economic Forum and the Cambridge Centre for Alternative Finance (CCAF) at the University of Cambridge Judge Business School. AI is a crucial economic driver in the financial sector, according to a poll conducted among executives from 151 financial institutions in more than 50 countries. The results show that 72 percent of people are expecting AI to be crucial to their company in the next two years, and 52 percent are already using AI-enabled goods and services. Deloitte Insights found that 70% of financial services companies use machine learning for cash flow event prediction, credit score refinement, and fraud detection. Additionally, some of the world's largest companies have instituted their own codes of ethics for artificial intelligence (AI), outlining best practices for creating AI systems that are both innovative and socially responsible while also being secure, reliable, and easy to understand and explain to users. Similarly, computer science professional groups stress the importance of members "identifying and mitigating potential risks in machine learning systems". Financial institutions will be affected by machine learning, but they will also encounter several difficulties. For instance, according to a World Economic Forum survey, over 80% of respondents consider data quality and

accessibility, along with the availability of qualified talent, to be significant challenges when it comes to implementing AI. Conversely, there are a number of problems related to the escalation of bias as well as the ambiguity and complexity of legislation. The primary barriers to a broader adoption of AI are inadequate infrastructure to support new AI technologies, poor data quality for testing and validating AI outcomes, and a lack of appropriately trained personnel, according to Deloitte's Digital Banking Maturity 2020 global benchmarking study, which involved 318 banks across 5 continents. Although there is a lot of promise for machine learning in financial technology, there are 76 significant ethical concerns that need to be addressed. These topics have not been studied to the same degree because machine learning applications in fields like healthcare already address the ethical concerns associated with ML In example, provides a thorough methodology for detecting ethical challenges in healthcare machine learning applications across the whole product development lifecycle, from ideation to deployment, including ancillary activities like review and supervision. Codes of ethics for professional organisations and other ethical standards for the conventional financial services business have not been thoroughly tested in the setting of fintech's machine learning applications. Our goal in writing this article is to examine the ways in which machine learning (ML) applications in the fintech industry undermine the core ethical norms established in traditional banking. We suggest ways to address these issues by utilising commonly-used tools for error analysis and visualisation in order to improve the explainability, evaluation, and diagnostics of machine learning models. Using this method, we demonstrate how ML applications in the financial technology sector might address several ethical concerns. The interdisciplinary approach for using ML in finance presented in this paper is aimed at financial institutions, fintech companies, regulatory bodies, and decision makers (Rizinski et al., 2022).

Use of Blockchain in Fintech

Blockchain technology provides an information recording and storage mechanism that makes it very difficult or impossible for the system to be altered, hacked, or otherwise manipulated (Chang et al., 2020). The unique features of blockchain include decentralisation and immutability of records, faster settlement and reduced counterparty risks, encryption and decryption for security purposes, and near impossibility of changing historical records. These features provide benefits for financial transactions. Immutability renders records insusceptible to alteration while decentralisation allows the same record to be distributed in an unalterable state, which enables building and maintaining consumers' trust in the system. Decentralisation also means eliminating certain intermediaries in offering services, transforming the role of stakeholders in financial markets and speeding up the settlement process, to allow for greater trade accuracy and security and less personnel/transaction costs in business. The use of blockchain is a novel undertaking that has enabled greater efficiency and transparency for investors in Islamic social and commercial finance alike. ISF is an aspect of Islamic finance that is considered an alternative source of financing to boost economies by helping to develop social welfare (Haneef, 2020). ISF has grown in popularity during and after the COVID-19 crisis, when attention shifted to using social finance to boost the economy. There is a dearth of research on blockchain technology and ISF that addresses real-world case studies. Most of the research on blockchain and ISF focusses on how blockchain might be applied to Islamic banking and finance. For example, Dahdal, Truby and Ismailov (2022) explains blockchain technology's potential and use in Islamic finance; Mohamed and Faisal (2024) Examine several technologies, including blockchain, to facilitate creative banking Examine the crucial success elements of blockchain technology in Islamic banks located in the UAE. There is likewise not much literature on blockchain and ISF. A literature search found

several studies on the potential use of blockchain in the deliverance of zakat, and how better transparency and more efficient distribution could take place with blockchain (Ajmal et al., 2023; Ashurov et al., 2020). Muneeza et al. (2023) explored the need to pay zakat on digital assets. Explained the positive potential use of blockchain in the management of waqf. However, there is a gap in the literature in relation to real use cases of blockchain in the deliverance of ISF financial instruments, which is what this research aims to fill. The objective of this research is to firstly examine the use of blockchain technology in providing ISF products. Secondly, this research seeks to identify possible issues in the use of blockchain and suggest recommendations on how to overcome these issues. This study focuses on two case studies where blockchain technology has been used to create and provide ISF investment products. The first case study is Finterra's Islamic redeemable preferential shares and the second is Blossom's smart ṣukūk. As such, the research problem for this research revolves around the integration of blockchain technology in ISF products and the identification of associated challenges and solutions. This essay is broken up into six sections. The introduction is followed by a review of the literature on ISF, its many tools and procedures, and blockchain technology based on pertinent prior research. The third section discusses the methodology employed in conducting the research. The next sections then examine two use cases of blockchain technology in providing ISF, analyse the implications of issues identified from the use cases, and draw lessons for policymakers. The last section concludes the paper (Kunhibava et al., 2024).

CHAPTER II:

LITERATURE REVIEW

2.1 Impact of FinTech on Poverty Reduction

Ma and Wang (2024) examined the influence of financial technology on enterprise value for A-share listed companies in Shanghai and Shenzhen, China, spanning the years 2011–2019. A linear regression model was set up, descriptive statistics were run, the possibility of collinearity was ruled out, and a significance level was noted. To learn how fintech affects business value, a strict empirical study is needed. Conclusions drawn from this study point to fintech's positive impact on company value, suggesting that this technology can help firms become more competitive and efficient. An additional study confirms that small businesses have a positively significant level of importance at the 5% level. People think this is because small businesses' technological capabilities are lower than those of big corporations. Currently, companies will benefit substantially from the arrival of fintech, boosting their development and worth. The study concludes that relevant firms can increase their self-value through the use of fintech.

Kamaldeen (2024) examined the possible effect of expanding FinTech on the ability to accomplish one of the SDGs—the eradication of extreme poverty—by 2030. In order to forecast the possibility of FinTech adoption, this study considers the proportion of the population that utilises the internet, the quantity of mobile phone subscriptions, and the quantity of fixed broadband connections. The "Generalised Method of Moments" (GMM) is used in this study to examine annual data from 127 developing and rising economies, including those in SSA and MENA. The study also includes a comparison of two poverty objectives, one set by the United Nations at 0% and the other by the World Bank at 3%. According to the results, financial technology can contribute to alleviating poverty. To reach the UN's zero-poverty target by 2030, states in the MENA and SSA regions will need

more than just better FinTech services. Furthermore, save for Yemen, Djibouti, and Egypt, all MENA nations will see severe poverty fall below 3% as a result of FinTech advancements. In the SSA area, however, only Cabo Verde, Seychelles, and Mauritius will achieve this feat. Based on the research, reducing poverty in the MENA and SSA areas will require more than just digital dividends if we are to reach the SDGs. When it comes to using FinTech to its full potential in the fight against extreme poverty, it cites better governance and human capital creation as necessary conditions.

Boloupremo and Ogege (2024) examined how technologies in the financial sector have contributed to alleviating poverty in Nigeria. The "Central Bank of Nigeria" (CBN), mortality, financial technology, literacy, GDP, and the "National Bureau of Statistics" (NBS) in Nigeria were the sources of the data collected from 1991 to 2021. Using the multiple linear regression estimation technique, a common effect model was employed in this work to investigate a cross-section of main critical independent variables across time series data. A close look at the numbers reveals a negative relationship between advancements in financial technology and the poverty rate. A weak negative link between the poverty rate and literacy rate was also indicated by the data. Although there was no statistically significant relationship between poverty and GDP, there was a positive association between poverty and mortality. Several important policy consequences stem from the study's conclusions. Since technology is fundamental to fintech activities, it is imperative that investment incentives be extended to infrastructures that support internet and mobile telephony. Second, more people should be educated about financial technology, ICT, and finance so that those who aren't naturally tech-savvy, particularly in rural regions, can benefit from fintech. Finally, in order to reduce the obstacles to credit, additional regulatory interventions should be implemented through reforms.

Zia, Zhong and Akbar (2024) investigates how society is affected by the growing awareness of the value of protecting the environment and energy sources. It also looks at how the financial technology industry, environmentally friendly financing, energy efficiency, and research and development affect energy poverty in European nations between 2013 and 2020. The estimate of both short- and long-term repercussions is made possible by the combination of diagnostic tests with FMOLS and DOLS. The findings demonstrate the strong relationship between energy poverty and all of the components—fintech, green finance, energy efficiency, and R&D. Governments in the European Union should use "green finance" to support and promote the financial technology sector, as this sector is crucial for improving environmental efficiency. Funding green initiatives has several advantages and might reduce energy poverty. In addition, the results show that greater funding, environmental subsidies, and social support programs are required to meet energy demands and eradicate energy poverty in Europe. The findings might pique the curiosity of tech-related lawmakers.

Nopiah et al. (2024) analyzed how the usage of FinTech loans contributed to poverty in Indonesia during the COVID-19 pandemic. Major shifts have occurred across all nations' economies and financial systems as a result of COVID-19 epidemic. As we entered middle of 2021, Indonesia's economic growth slowed. Reducing household expenditure, increasing the chance of unemployment, and deepening poverty were further effects of this. Also, people's habits are changing, with the rise of digital financing, alternatives to cash, and online marketplaces. In order to boost economic output, people need adapt to new digital technology, particularly digital banking, and this will promote efforts to enhance the economy. If digital money is to help reduce poverty, however, public financial literacy and inclusion must accompany its development. The study found that the poverty rate goes up when fintech loans are made. When additional variables are taken into

consideration, though, it loses its significance. The utilized of credit cards and online shopping has a major and detrimental effect on Indonesia's poverty rate. The Indonesian government, financial institutions, and other key players must work together to fully realise Fintech's potential in the country.

Lee, Lou and Wang (2023) looked at data from different Chinese provinces between 2011 and 2019 to see how DFI inclusion affected poverty reduction. According to the findings, DFI has the potential to greatly contribute to reducing poverty. They found that consumers with different levels of poverty have different impacts from digital financial inclusion when they combine heterogeneity analysis with quantile regression. Income and its distribution are critical determinants of poverty reduction, as shown by mediation regression results. A "U" non-linear relationship indicates that there is a hidden risk of poverty worsening, although DFI has a multiplicative impact on poverty reduction according to the geographical Dubin model. As a last step, they use IV regression to strengthen the data, demonstrating that the primary conclusion of this study is reliable.

Pahlavanian, Shirkhodaie and Ghazinoory (2023) shed light on how citizenship factors into the transition to fintech. As a result, it has examined financial citizenship and supported social capital during the Fintech revolution by using an interpretive paradigm, qualitative research methods, an inductive methodology, and Grounded theory. Fifteen fintech industry insiders were surveyed in this regard using sampling snowballs and purposeful sampling. According to the results, the shift to fintech has been prompted by causes including global technology pressure and the old banking system's vulnerability, but the lack of acceptability of fintech among citizens is a result of their distrust. In order to educate the public and encourage social capital to create circumstances where citizens can participate as customers, feedback providers, or requesters of financial services, a participatory approach to financial citizenship must be formed. There will be a shift in

government policy, an increase in funding for FinTech start-ups, a clearer understanding of what constitutes innovative financial services, and, ultimately, a successful transition to FinTech.

Nuryitmawan (2023) examined potential influence of Islamic fintech on poverty reduction by integrating digital financial services into an inclusive Islamic financial ecosystem. The integration of digital fintech into an inclusive Islamic financial ecosystem is a noteworthy endeavor. Consumer conflicts, complicated licensing, regulatory gaps, and abuse in terrorism financing are some of the problems that afflict this dynamic environment. Using an "Ordinary Least Squares" (OLS) model, this research looks at the years 2005–2022, and how Islamic fintech could affect global poverty reduction. The results imply that efforts in Islamic finance could improve the banking industry and alleviate poverty. The importance of the financial system in fostering social welfare is highlighted by this. Islamic finance shows promise for long-term social and economic development, especially for Shariah-compliant businesses looking to grow, as opposed to only economic growth. The full realization of Islamic fintech's revolutionary potential requires resolving regulatory complexities, according to the results. To aid in Indonesia's long-term efforts to reduce poverty and advance its socioeconomic status, this study highlights the importance of creating a regulatory climate that is conducive to these goals.

Kumar Roy and Hasan (2022) investigated how CMSMEs in Bangladesh are utilizing digital technologies to streamline their loan applications. Start-ups and company owners in the tech industry throughout the world are increasingly turning to alternative and embedded financing options. The FTI industry is a driving force behind creation of ground-breaking new products. For several reasons, conventional banks have mostly ignored the CMSMEs sector. The World Bank estimates that Bangladesh's CMSMEs are short-changed to the tune of Tk. 170 billion (about $2 billion). It's a great chance for FinTech

firms to test the waters and fill the funding gap in the CMSMEs market using FinTech Credit (FTC). A model for FinTech loans in Bangladesh is formulated in the research. To reduce the funding gap, the FinTech and CMSMEs industries will be guided by the framework. They need to prioritize Financial Technology (FinTech) and Cottage, Micro, Small & Medium Enterprises (CMSMEs) if we want Bangladesh to be ready for the Fourth Industrial Revolution (4IR).

Jain et al. (2022) investigated how microfinance and micro-insurance have improved the lives of low-income borrowers and how they have aided in the battle against poverty. Microfinance organizations and public sector banks are two of the 66 financial sectors whose data was used in the study. Opportunities for employment, income, education, healthcare, and e-services all serve as independent variables in studies of living standards, with savings serving as the dependent variable. Based on the study's findings, people's level of living is influenced by their access to good healthcare and education, as well as their ability to earn a liveable wage.

Roongsrisoothiwong (2024) examined how fintech and specific targets of the United Nations' SDGs affect poverty. The research employs two methods of analysis to examine yearly data for seven Southeast Asian nations from 2018–2021, including linear regression and Pearson correlation coefficient analysis. The "International Monetary Fund" (IMF) classifies the seven countries as either middle-income or lower-income countries. The study uses five separate indicators to define the adoption of fintech indexes. The findings showed that the majority of sub-measures and fintech significantly increased the rates of poverty in seven Southeast Asian nations, including both middle-class and lower-class ones. This study suggests that financial technology innovations could have a significant impact on the SDG of reducing poverty.

Fauzi and Rokhim (2022) analysed the role of financial technology in alleviating poverty; data from Indonesia. Among the many new financial service innovations flourishing in the modern digital age is the FinTech sector. The idea of digitalizing payments is a rapidly expanding sector in Indonesia's financial technology industry. Data processing from BPS was done to ascertain how FinTech affected Indonesia's evidence of poverty alleviation. This proves that lending through FinTech companies helps alleviate poverty.

Chhorn (2021) examined influence of Fintech-era financial development on poverty and human development in Southeast Asian economies as measured by domestic credit, mobile money, and wide money. Results from an imbalanced longitudinal dataset covering the years 1990–2017 show that universal money and home credit can help reduce poverty and boost human development. If we compare mobile money's involvement with human development, we'll see that it has a statistically good impact. Further analysis of the region's economic, political, and institutional development reveals that only the least developed and least democratic nations benefit from domestic credit and wide money. In contrast, mobile money is related to a statistically significant increase in human development in both sets of nations, but no such correlation is seen when looking at poverty. This work uses instrumental variables and two-stage least squares for panel data estimations, drawing on prior research on the significance of financial development for developing countries. Exogenous variables introduce endogeneity bias. These results, along with those from further statistical tests of subsample analysis of institutional and political characteristics, as well as from nations with higher and lower incomes, enhance the study overall.

Shahvaroughi Farahani et al. (2022) reviewed the role that AI and Fintech can play in mitigating the harmful impacts of COVID-19 and attaining sustainable development

goals in areas like healthcare, education, and equality. When it comes to environmental protection, poverty alleviation, educational opportunities, and social welfare, AI and finance may work hand in hand. Digitalization, climate change, sustainable development metrics, green finance, big data, and AI and its possible effects on sustainable development were among the topics covered. Lastly, they looked at how COVID-19 affected Fintech and AI, and how those industries impacted COVID-19. According to the research, Fintech and AI have the ability to help achieve SDGs and mitigate the harmful effects of COVID-19 on a number of fronts, including the environment, society, economy, and health.

Mpofu (2023) looked to evaluate how financial technology and Fourth Industrial Revolution can help poor nations achieve the SDGs set out by the UN in 2030. When it comes to banking, digital services are king. Some have conjectured that this is due to advancements in the Fourth Industrial Revolution-related fields of blockchain technology, artificial intelligence, big data, cloud computing, Internet of Things, and finance. Realizing that technology can both change things and make them worse. The findings from the research were contradictory. It was equally clear that some negative externalities hinder the realization of the SDGs, even though positive contributions like improved risk assessment, increased access to capital, and savings opportunities all help bring about the SDGs. Among these unintended consequences are issues like gender inequality, digital gap, over-indebtedness, and heightened risk of fraud. As a result of these unintended consequences, developing nations may be unable to reach their sustainable development targets. The difficulties in developing nations were exacerbated by factors such as inadequate internet infrastructure, widespread poverty, lack of digital literacy, and lax regulation. Finding a balance is critical because poor nations' capacity to attain the sustainable development objectives may be positively or negatively affected by fintech and other technologies of the fourth industrial revolution.

2.2 Financial Inclusion, FinTech, and Income Inequality

Zulkarnain and Satrianto (2023) investigated the link between financial education and wealth disparity in Indonesia. It specifically investigates how financial inclusion, literacy, and wage inequality affect income disparity across 34 Indonesian provinces over the years 2016, 2019, and 2022. Economic instability and societal welfare are both affected by income disparity. There has been little to no change or improvement in income inequality in Indonesia compared to prior years. The primary goal of this research is to deduce how income inequality in Indonesia is related to people's level of financial literacy. A quantitative approach is utilized in this investigation. This analysis makes use of panel data sets spanning 34 Indonesian provinces and spanning the years 2016, 2019, and 2022. The analysis is conducted utilizing Panel Data Regression with a "Random Effects Model" (REM) technique. While FI and literacy do not affect income disparity in Indonesia, wage inequality does. Income disparity in Indonesia is significantly reduced when poverty levels are high. Suggestions in this study: FI should start expanding the target of introducing new and existing products to increase public understanding and confidence, especially among the lower middle class. In addition, government intervention must be carried out massively and aggressively so that a general understanding of finance increases.

Babar (2023) examined the connection between financial technology and FI, with a focus on empowering women and reducing poverty. With the use of the available resources, ending severe poverty is one of the "Millennium Development Goals" (MDGs) objectives. FI seems to be a way to do this. Access to and use of (FinTech) is expanding to include people from diverse backgrounds. Therefore, this revolution in technology that simplifies and reduces the cost of financial services could hold the key to FI and, by extension, women's emancipation. This study project used data from the 2017 Global Findex report by the World Bank to analyze 144 countries to find out if FinTech and FI

were related. The report's FI variable was measured using a few metrics, and the FinTech reach was assessed using a few indicators. The findings point to a robust association between FinTech and FI, both for the general public and for women specifically. The survey also revealed that, with very few exceptions, high-income countries are more welcoming to outsiders monetarily, whereas low-income ones are the exact opposite. FinTech has the potential to alleviate poverty and empower women, and this study will shed light on how it affects underserved populations' access to financial services.

Kebede, Naranpanawa and Selvanathan (2023) Panel data from 23 African states was used to assess and investigate the effects of FI on income inequality across a number of characteristics between 2004 and 2018. Using an endogenous panel threshold model, we show that the distributional effect can only be improved by a larger level of FI. The researchers used panel quantile regression to find that FI has most of its positive distributional effects in the quantiles with the highest levels of inequality. Even more so, they show that better institutional quality amplifies the positive distributional effect of FI. Several sensitivity analyses, including those including instrumental variables, sub-sampling, Alternative measurements of income inequality and Bayesian model averaging also show that the results stay the same. According to the results, reducing income disparity can only be accomplished through the promotion of an inclusive financial system. Furthermore, the findings suggest that improving institutional quality is crucial if individuals are to experience the favorable distributional effects of FI.

Ali Mustafa et al. (2023) aimed to find if the usefulness of Fintech payment mechanisms varies across nations with different socioeconomic levels by analyzing their impact on evolving account ownership as a master measure of FI. A panel of twenty-two nations covering the years 2010–2020 makes up the study’s sample. Data for the database came from World Bank's Global Findex, edition 2021. Fintech instrument ownership is

regressed using the FMOLS approach. Due to differences in technical advancements and poor levels of financial knowledge, fintech payment instruments have sped up FI, although to varying degrees. The findings showed that in high- and middle-income nations, FI was greatly affected by debit, credit cards, digital remittances, and macroeconomic variables. Since the S&P indicator had little impact across countries with varying incomes, it became clear that Fintech and financial literacy needed to be prioritized to accelerate FI. Aside from that, nations should endeavor to build and enhance their information and communication infrastructure, particularly in developing nations, so that financial technology can flourish.

Priyadarshi (2023) delved into the goal of implementing disruptive financial technology to increase FI in rural areas, as well as the key factors that are driving its success. To foretell when FT will be widely used in rural areas, this research takes an empirical look at how technology might help disadvantaged regions become more inclusive. Primary and secondary sources of information were combined to form the conclusion in this descriptive study. Roughly 152 surveys were filled out for this research. A qualitative methodology was used for the data analysis. To quantify the effect of financial technology on increasing rural India's access to banking services, they done exploratory factor analysis. The findings suggest that technical illiteracy in India's rural sector is one of the obstacles preventing people from utilizing mobile-based transactions. Several aspects that are favourably connected with the usability of the system have an impact on how easily financial technology is regarded to be used. In a changing financial landscape, the current work offers developing good practices for policymakers, regulators, and investors. It gives descriptive data to point out another development engine for FinTech services as well as the crucial success criterion.

Erkisi and Boğa (2023) determined financial inclusion by utilising a six-dimensional index that includes FI and marketplaces with depth, access, and availability sub-dimensions. Parameter estimates are performed using cointegration regression methods, such as FMOLS, DOLS, and CCR, over the period ending in 2021. According to the data, education greatly improves economic equality, but urbanization, per capita income, financial inclusion, and inflation all have detrimental effects. A 1% increase in FI is correlated with a 0.012% increase in income inequality. In Turkey, progress towards financial inclusion distorts income equality, which runs counter to most previous empirical studies' conclusions. The study's conclusions have significant ramifications for Turkey. Although there is little evidence that FI reduces income inequality, it would benefit all sectors of the financial sector to work towards eliminating economic disparity by providing low-income individuals with opportunities to grow their income.

B. Ashenafi and Dong (2022) used data from 2011 to 2017 to investigate how fintech and financial innovation affected economic inequality in 39 African nations. Every aspect of managing our money—from saving to borrowing to investing—has been impacted by the dramatic shifts brought about by FI and Fintech. Using three waves of survey data collected from 39 different African nations in 2011, 2014, and 2017, this research examines how FI and Fintech have affected income inequality. Using “two-stage least squares” (2sls) and pooled “ordinary least squares” (OLS) estimate methods, they obtain three significant outcomes. One institutional factor that affects Fintech and FI is the efficiency of the government, political stability, and measures taken to control corruption. Second, more people having official bank accounts is one way that technology in the financial industry supports FI. The third point is that financial inclusion and fintech both amplify income inequality. Achieving greater inclusiveness and Fintech or decreasing economic inequality: that is the choice legislators fac, according to the results. The

importance of a financially inclusive economy for the disadvantaged is something we stress. Removing barriers to loan acquisition, providing Fintech services tailored to agriculture, and improving digital literacy are critical for inclusion and Fintech to achieve their full potential in reducing income disparity.

Verma and Giri (2022) examined the role that FI plays in alleviating wealth disparity in the Asian region. Panel estimating techniques such the FMOLS, ARDL, Pedroni cointegration test, GRANT causality test, and Kao residual-based test are used in this work. The dataset includes the Gini coefficient index in addition to three financial inclusion measure dimensions and one financial depth variable. The study's time frame is from 2005 to 2019. Findings show that FI measures including outstanding loans, bank branch count, deposit accounts, and domestic lending to the private sector significantly impact income inequality discrepancy in the long run. Nonetheless, there is no immediate impact on income inequality from any of the FI metrics. Legislators also need to come up with policies and initiatives to expand people's access to financial services since income inequality is a direct outcome of FI indicators.

B. B. Ashenafi and Dong (2022) Examined survey data collected in 2011 and 2014 and 2017 from 39 different African nations in order to assess the effect of financial technology and inclusion on income disparity. Applying 2sls and OLS estimating methodologies yields three significant findings. Firstly, effectiveness of government, political stability, and corruption control are institutional elements that impact Fintech and financial inclusion. The second way that financial tech facilitates financial inclusion is by lowering the barriers to entry for opening conventional bank accounts. The last point is that economic inequality is exacerbated by the connection between FI and Fintech. Governments, according to our findings, have a choice between fostering financial inclusion and decreasing economic disparity. They reiterate how critical it is for the

financial system to assist the poor. Optimising the impact of inclusion and Fintech in mitigating income inequality requires the removal of obstacles to loan acquisition, enhanced digital literacy, and fintech services specifically designed for the agricultural sector.

Ozili (2022) shed light on the possibilities for FinTech, cryptocurrencies, and "central bank digital currency" (CBDC) to improve sector inclusion and stability. The goal of this critical discourse analysis study was to develop, put into practice, and evaluate the benefits and drawbacks of Fintech, cryptocurrencies, and CBDC for monetary stability and inclusiveness. Findings More people without bank accounts may now access formal financial services thanks to the convergence of fintech, cryptocurrencies, and central bank digital currency. Financial stability may be preserved by digital currency and financial technology services, however there are hazards associated with cryptocurrencies that can be minimised with sound regulation. In addition, the report pointed out a few issues with CBDC, Fintech, and cryptocurrencies as they pertain to financial inclusion and market stability.

Kling et al. (2020) created a hypothesis that associates income disparity with FI, which is characterized as availability of formal loans and financial assets. An initial endowment-determining random variable models household inequality. Immediate investments in human capital and financial assets can be made with these early endowments. The ideal investment levels are suggested by a human capital-based production function that is strictly concave, which translates into income. The amount of money that people put into financial assets does not affect the yields that they get. Utilizing data from the 2011 and 2013 “China Household Finance Survey” (CHFS), we put theoretical predictions to the test. Theoretical predictions about the population's potential financial inclusion beneficiaries are derived by substituting the distribution of assets or

income under initial conditions that are described by a random variable that occurs. While informal lending does help alleviate under-investment in education, financial inclusion as a whole is insufficient. Households' reliance on formal or informal loans exacerbates income disparity, while access to bank accounts improves their prospects for future income distribution. To be sure, informal loans are helpful for families whose income is below the 40th percentile.

Ratnawati (2020) investigated how FI affected several Asian countries as well as monetary stability, income inequality, economic growth, and the reduction of poverty. National policy has recently changed to prioritise FI as a means of advancing sustainable development and improving people's quality of life. For this study, we will now examine how FI affects growth, poverty, income inequality, and economic stability in a few Asian countries. The quantity of individuals with access to and use of banking services is one indicator of financial inclusion. The Gini coefficient and the percentage of people living below the poverty line are two indicators of economic inequality and poverty. The percentage of nonperforming loans and the Bank Z-Score are two indicators of financial stability. The hypothesis test shows a high correlation between financial stability characteristics, poverty, income inequality, and economic growth. Nevertheless, the consequences of financial inclusion on economic growth, income inequality, poverty alleviation, and financial stability have been insignificant in eleven Asian countries. Governments across the globe need to evaluate and use the results of this study when devising strategies to increase financial services accessibility; only then can policies aimed at promoting sustainable development and improving people's well-being be realized.

Tsouli (2022) examined the FI rates of thirty European countries between 2004 and 2019 in relation to income inequality and poverty using a composite FII created by "principal component analysis" (PCA). The next stage is to assess the impact of FI on

poverty and income inequality using the fixed effect method. Factors including population density, inflation, and internet users significantly affect GDP per capita and FI, according to regressions performed across all European states. When the rule of law is stronger, FI increases, but when the age-dependence ratio is smaller, it decreases. Statistical analysis reveals a link between financial participation and reduced poverty rates within this population. Based on the available evidence, FI is an essential tool for lowering income inequality in Europe.

Rahma and Fakhrunnas (2022) categorizes nations according to their income and then examines how FI has affected GDP growth and income inequality. The 440 secondary observations included in the study are based on cross-sectional and time-series data that was gathered from 40 countries throughout the world with different income levels during a period of 11 years (2010-2020). This research makes use of panel regression analysis. When panel data regression is used to estimate other factors like as inflation and legal stability, FI affects GDP growth and income inequality. Research has demonstrated that FI significantly affects GDP growth in both nations with low- and high-income levels. However, when looking at income inequality, FI is most evident in nations that fall within the lower and upper middle-income categories. To improve people's well-being through financial inclusion, this study's findings should be taken into account by countries based on their income categories.

Demir et al. (2020) used 140 nations' worth of survey data from the 2011–2017 Global Findex waves to look into the connections between FT, FI, and income inequality. Financial innovation, according to this research, affects FI, which in turn affects inequality. They used quantile regression analysis to compare these effects across nations with varying degrees of economic inequality. Additional evidence that FI is a valuable asset for FinTech in the battle against wealth inequality was discovered by. In addition, discovered that FI is

more beneficial to nations with higher wealth. All things considered, the outcomes are in line with the objectives of the UN-2030-ASD and the G20-HLP-DFI together.

Omar and Inaba (2020) investigated the results of FI in alleviating income inequality and poverty in 116 developing nations, as well as the factors that influence this outcome and the consequences that may arise under certain conditions. The research is conducted from 2004 to 2016 utilising yearly panel data that is not balanced. They create a new financial inclusion index by expanding upon a comprehensive set of financial sector outreach metrics. According to their research, the degree of FI in developing countries is greatly impacted by a number of characteristics, including per capita income, the proportion of internet users, the age dependence ratio, inflation, and income inequality. The results show that FI also considerably lowers income inequality and poverty in underdeveloped countries. The results support the idea that underserved communities would benefit society as a whole if more efforts were made to increase their use of formal financial services.

Ouechtati (2020) analyzed 53 developing nations' FI policies and programs over 2004–2017 using three distinct dynamic panel data estimators to determine how FI affected poverty and income inequality. According to the findings, FI helps alleviate poverty, especially when it comes to having access to commercial bank deposit accounts and credit. These results support the hypothesis that increasing financial services' accessibility and expansion can reduce poverty by improving the welfare of the impoverished through more loan availability and money supply. It was also shown that when bank penetration is strong and credit is widely available, low-income individuals have better access to financial services and income disparity is reduced. The bias-corrected fixed effects estimator supported this result at the 5% and 1% significance levels, respectively. If FI proxy variables do not significantly affect poverty and income inequality, it could be because of

weak financial institutional frameworks or because FI components need to be integrated into a more robust framework.

Park and Mercado Jr (2018) adds to the current knowledge on FI by examining the variables that influence it and determining how it affects global and Asian poverty and income inequality. For 177 economies, 37 of which are in developing Asia, they built a new FII to evaluate the degree of FI about other macroeconomic and country-specific variables. Using some confounding variables, they investigate how FI relates to poverty and income disparity. With this method, we can determine which elements are important for both the complete sample of nations and the emerging Asia sample in particular. Considerable factors, such as GDP per capita, legal stability, and demographics, impact FI, as shown by the estimation outcomes for both the international and Asian samples. Although financial engagement grew significantly after reading and completing elementary school for all groups except the Asian sample, this was not the case overall. The research shows that a decrease in poverty and economic inequality are directly correlated with FI. It seems, nonetheless, that in developing Asian countries, economic disparity and the availability of banking services are unrelated.

BIRHANU (2018) study the connection between economic inequality, poverty, and access to financial services in 48 African nations, with a focus on those that experienced a recession following the 2008 financial meltdown. Following the global economic crisis of 2008, the rise of financial inclusion has played a significant role in contributing to the reduction of poverty and income inequality worldwide. With the help of financial inclusion, people have been able to take part in all aspects of the economy, from starting and growing their businesses to attending college, reducing their risk exposure, and coping with unexpected financial setbacks. to is why policymakers must comprehend the interplay between FI, poverty, and inequality to devise initiatives to alleviate these three interrelated

problems. Additionally, this research uses a fixed effect panel regression estimator to look at how financial inclusion affects certain macroeconomic variables. Economic inequality and poverty in Africa were discovered to have inverse relationships with financial inclusion, according to the study. The findings of this study indicate that certain African countries ought to put policies and programs into place with the goal of encouraging low-income and marginalised individuals to participate more in the banking sector.

Kim (2016) determined if it is possible to reduce income inequality by FI, which means that financial services are easily accessible. Additionally, they determine the magnitude of the effect that reduced income inequality would have on GDP growth due to this FI. Three conclusions can be drawn from this empirical investigation. To begin, it is important to recognize that income inequality has a significant negative effect on GDP growth. Wealth disparity and GDP growth tend to go hand in hand, especially in countries where per capita income is low. Additionally, nations with a high fragility index see a more pronounced decline in economic growth when income disparity is present. Secondly, economically unstable or low-income nations do not benefit greatly from progressivism's ability to decrease income inequality. Finally, FI bolsters the association between income inequality and GDP growth. Income inequality and GDP growth were inversely related, but that connection turns positive when FI reduces income inequality. Countries with a high fragility index are seeing this trend more strongly than those with a low fragility index.

Tita Fomum, Anthanasius & Aziakpono (2017) conducted research in sub-Saharan Africa to determine factors of FI that contribute most to income disparity and to conclude conclusions about the nature of this relationship. The aim of this study is to examine the relationship between financial inclusion and income inequality in sub-Saharan Africa using the World Bank Global Findex 2011 and to identify the components of financial inclusion that have the greatest impact on this variable. A positive correlation between the income

gap and business account utilization was observed in electronic payment utilization and formal savings.

2.3 Gender and Financial Empowerment

Veena (2024) investigated the gender gap in economic empowerment in India by looking at pay inequality, asset ownership, and labour force participation. In Individual potential and economic growth and development are both impeded by this systematic imbalance in study. As a result of long-established gender roles and cultural mores, this imbalance is more severe in Indian society than in any other. Historically, women's subservient status has prevented them from owning assets and having a say in financial matters. Further, individuals encounter prejudice and a lack of employment prospects in the labour market. An enormous gender disparity in household and society-level economic involvement has resulted from these causes. Information for this research came from secondary sources, including the Indian government's “A National Survey on Family Health and an Interim Survey on the Labour Force”. According to the research, women's labor force participation was 46.2% lower than men's, and, on average, earners were women. males make $136.32 less per day than women do. According to the study, a multi-level strategy is needed to tackle gender inequality in economic empowerment. Making and enforcing laws that are sensitive to gender in the workplace, fighting for equal pay for equal work, and guaranteeing affordable child care and parental leave are all part of this.

Enggarratri (2021) investigated the digital practices of Gerakan Nasional 1000 Startups as they relate to Indonesia's Digital Energy of Asia plan. The eventual goal is to increase community involvement in the global digital economy in Indonesia. The purpose of this study was to evaluate how much gender equality is promoted in Indonesia by Digital Energy of Asia. They have evaluated this policy's execution by looking at its process, output, results, and causal relationship. This research found, with the use of a qualitative

methodology, that the policy has been effectively put into place. This research also delves into the topic of socioeconomic empowerment and the empowerment of women. Quantitative analysis of female empowerment was also conducted using the analytical empowerment framework. This study indicates that female relationships among Gerakan Nasional 1000 Start-up Digital participants are another element that influences these endeavours, and it also shows that the Indonesia Digital Energy of Asia strategy has had a significant impact on female empowerment activities.

Wang (2019) examined the disparity between women in around 120 countries in terms of their access to and utilization of FS. The research shows that women can be more financially included if they are empowered to do so, using panel data from the Global Financial Inclusion Index that measures things like account ownership and digital payment usage. Using cross-country regressions, the findings show that more women will have bank accounts and use them to make or receive digital payments in nations where women are politically empowered and make up a higher portion of the workforce. Consistent with these results, research shows that women's needs for financial services are positively correlated with their level of education. In addition, the study lends credence to the idea that legislative safeguards about gender norms, such as equal property rights and non-discrimination in the workplace, can account for part of the international difference in female account ownership and digital payment usage. Concurrently, the research shows that women are much less likely to gain from financial inclusion if they feel unsafe doing so, for instance as a consequence of intimate partner violence.

Sawadogo and Semedo (2021) evaluated the effect of FI on income inequality between 2004 and 2016, using a finite mixture model and a sample of 28 sub-Saharan African nations. Financial inclusion's impact on income inequality, they hypothesized, would vary across groups of nations sharing comparable but as-yet-unobserved traits. They

identify two groups of nations whose responses to financial inclusion's effect on income disparity differ. The researchers also found that countries with robust institutions had a lower income inequality rate after accounting for the effects of financial inclusion. Results are valid, according to a battery of robustness testing. For sub-Saharan African countries to reap the benefits of FI these results show that they need to improve their democratic environments and institutions.

Langworthy (2018) investigated the financial and empowerment effects of female microentrepreneurship, with a focus on how societal expectations, institutional bias, and gender limitations influence the goals, characteristics, and success levels of women-run microenterprises. Research in this area aims to fill gaps in the knowledge about female micro-entrepreneurship and its conceptualization and application to programs that empower women economically and socially. Microenterprises run by women have different goals, traits, and levels of success due to societal expectations, institutional bias, and gender limitations that dictate what constitutes entrepreneurship and who is eligible to engage in it. Most of the businesses started by women through resource allocation programs like microcredit are small, home-based subsistence operations that provide them with low-quality jobs but do little to break down or remove current gender barriers. This study combines data from focus groups and survey responses from 487 female entrepreneurs in Kandy, Sri Lanka, to investigate the financial and empowering implications of female microentrepreneurship. Iteratively defining success outcomes reveals that several gender limitations to female microentrepreneurship are revealed when empowerment indicators are included in success definitions, as opposed to solely financial measures. The gender limitations that are more frequent among individuals who achieve complex criteria of success and those who do not can be analyzed through group differences. Evidence from microenterprises suggests that societal and household norms

limit the potential and success of female entrepreneurs. It is established that there is a need for further research on women's hybrid entrepreneurial motives, which are influenced by their own home and economic concerns rather than development efforts' anticipated goals.

Lailulo, Sathiya Susuman and Blignaut (2015) investigated the connection between gender, health, and women's empowerment. Both the 2005 and 2011 "Ethiopia Demographic and Health Surveys" (EDHS) provided the data used. Each predictor variable's relative importance was determined using bivariate and multivariate analysis. Research in this area tested the hypothesis that gender, health, employment, and education levels all have a role in women's empowerment. A lack of social standing and agency for women is strongly linked to negative health consequences, according to the study's authors. Between 2005 and 2011, there was a positive connection between men's school ages and their primary education achievement, but a negative connection between women's school ages and their education attainment. The odds ratio of a woman having some college education was highest in the wealthiest quintile in 2005 and again in 2011. Women in the highest wealth quintile had an odds ratio of 10.90 in 2011, up from 6.39 in 2005, while men's odds ratio dropped from 10.33 to 2.13. When breaking down work status and occupations by gender from 2005 to 2011, the statistics revealed that men comprised a bigger share of the employed population than women.

2.4 Digital Financial Inclusion in Specific Regions

Iwedi, Wachukwu and Chizuru (2024) examined how DFI has contributed to reducing poverty in Rivers State, Nigeria. Rivers State citizens were the primary focus of the investigation. Two hundred and twenty-three people were chosen for the study's sample by using multistage and purposive sampling techniques. Data were gathered methodically using a questionnaire, and precautions were taken to ensure that it was a legitimate and trustworthy research tool. They used simple descriptive statistics like percentages, tables,

and graphs to examine the data. Using SPSS version 25.0 software, basic regression models were used to evaluate hypotheses. Researchers in Rivers State discovered a robust and positive correlation between customers' spending, the prevalence of "point-of-sale" (POS) systems, the regularity with which they paid using mobile money, and the availability of such devices. As a result of these results, it is more likely that developing countries like Nigeria would see a decline in poverty as a result of access to digital financial services. To reduce poverty and increase access to financial services, the Nigerian central bank should take action. Also proposed are measures to provide access to digital financial services in underserved areas and to encourage low-income people to take part in financial education programs; especially in rural areas. Reducing poverty and financial marginalisation will be aided by these actions.

Wang and Yu (2024) showed that the growth of the east, central, and western regions of China, as well as economic growth, income distribution, and opportunity equality, are all greatly affected by DFI. Additionally, via the innovation transfer mechanism, DFI can improve inclusive growth. Expanding DFI—which includes coverage depth, digital level, and digital level—will boost China's degree of inclusive growth. At the same time, DFI can be bolstered by the rising tide of innovation, particularly in the realm of invention patents, which promotes inclusive growth. The study's conclusions may not be applicable outside of China due to its exclusive emphasis on provinces and its usage of a very particular timeframe (2011–2021). Additional investigation into the ramifications for more generalized economic settings is necessary. Promoting the expansion of DFI and increasing the rate of innovation can hasten the process of inclusive growth. DFI, regional differences, and inclusive growth are all positively correlated, according to this study. To achieve inclusive growth, the authors suggest policies and point out that innovation is crucial to this relationship.

Sun and Zhang (2024) integrated information on innovation from MSMEs culled from the National Bureau of Statistics with data on China's DFI index compiled by Peking University. The research continues by outlining how digital finance facilitates technological innovation among MSMEs by reducing financing limitations and increasing consumption. It then confirms that the expansion of DFI has this effect. There is still a lack of support for high-tech businesses, even though digital inclusive financing encourages technical innovation across organizations with varying degrees of technological sophistication. Digital financial inclusion has different impacts on different regions, according to the heterogeneity research. For instance, the central and western areas benefit more from digital inclusive financing than the eastern region does when it comes to promoting company innovation.

Li and Peng (2023) Utilizing local panel data from 2013 to 2019, The factors that are being studied here include things like income, housing, employment, education, and health care of the local population. It calculates each province's well-being index in great detail by using the coefficient of variation. Chinese data is used. It combines panel data models and RIF regression to conclude and investigate the effects of DFI on welfare imbalance. The welfare effect analysis highlights DFI as an essential component in improving Chinese people's income, jobs, housing, schools, and healthcare. After accounting for instrumental variable estimation and using a different welfare assessment approach, this result remains unchanged.

J. Liu et al. (2023) analyzed looking at how "digital financial inclusion" (DFI) has affected the income divide in China's cities, specifically contrasting the wealth discrepancy in the country's western and eastern regions. Similarities and differences in the wealth disparity between Western and Eastern China are highlighted in this study. Since the study covered 22 provinces in China and ran from 2011 to 2020, a static panel technique was

appropriate. This research utilizes Stata for its data analysis. Here, they had a dependent variable the disparity in income between city dwellers and rural residents. The following are other examples of independent variables: digital credit level, use depth, index level, degree of digitalization, digital payment level, and overall coverage breadth. Factors such as higher levels of education, government assistance, trade openness, technological advancement, economic transformation, and technical progress are included as control variables in the study. These seven traits, according to empirical study, can aid in reducing the economic divide between urban and rural areas. In contrast to eastern China, there appears to be less of a divide in digital financial inclusion between rural and urban areas in western China. Except for the credit index, no indicator was shown to have a smaller impact on the urban-rural income disparity in the East than in the West. The results indicate that the credit index has a somewhat smaller impact on the western region (0.10% compared to 0.11% in the eastern region).

Xi and Wang (2023) assessed the state of the economy by looking at how far we've come in areas like technological advancement, sustainable development, environmental preservation, liberalisation of commerce and living standards. Panel fixed effect, panel threshold, mediation effect, and geographic Durbin are the models used to show how digital FI affects the quality of economic growth. Highly commercialised areas, particularly in the East, are increasing when digital finance is implemented; the quality of economic growth has been rising recently; this trend can be furthered by promoting entrepreneurship; neighboring areas also benefit from digital FI since it increases economic growth; increasing the availability of digital financial services has the potential to significantly boost economic growth.

Abina, Abalubu and Afuga (2023) looked into how FI affected the expansion of Nigeria's economy. Considering the concentration of "automated teller machines" (ATMs),

the total amount of credit accessible, total volume of deposits, and the ratio of bank branches to adults are all indicators of financial inclusion. The data came from the World Bank Report, which covered the years 2004–2022. It contained these features. The statistical technique known as the "Auto-Regressive Distributed Lag" (ARDL) model is used to conduct the analysis. The data indicates that the percentage of the population (those aged 15 and up) with bank accounts is inversely correlated with the rate of growth of the gross domestic product. Perhaps the efficacy of financial disintermediation is to blame for the inverse correlation between the lag value of bank branches and GDP growth rate.

Zucchelli (2023) The capacity to maintain a checking account with a bank is a measure of FI. The percentage of the population that uses banking and other financial services is one indicator of FI. The operators and supervisors in the financial industry today view FI as a critical metric for assessing possibility for expansion and growth as well as for guaranteeing adequate controls to maintain the integrity of the system. This topic has also been receiving greater and more attention because it is a component of the "United Nations' 2030 Agenda for Sustainable Development." This note aims to determine the present status of countries regarding the inclusion target, focused on “Central and Eastern European” (CESEE) nations, utilizing most recent data from Global Findex (updated in July 2022 by the World Bank). To evaluate the level of account ownership and fundamental banking services (deposits and credit) within CESEE sample, this analysis only makes partial use of the Global Findex, despite its importance. In 2021, FI had come a long way. In a few of nations, it has risen to levels comparable to those of large high-income nations. Some Asian countries still have a disproportionately large number of unbanked people. All regions saw an increase in digital payments, but Asia was the most notable. There needs to be additional incentive for people to use credit and debit cards since the gap between card

ownership and usage was still considerable in 2021. Many customers still prefer to pay with cash, even when they have an account.

Gao (2023) explored the connection between digitalization, FI, and poverty reduction. As the world economy has grown, economic globalization has become an important trend. As the trend of economic globalization continues to gain traction, it is crucial to strike a balance between the development of different regions in the global economic environment. An indicator of economically imbalanced development is the wide disparity across nations, regions, socioeconomic groups, and urban and rural areas. A proposed solution to the problem of poverty at the level of financial services is inclusive finance. Achieving financial inclusion has garnered attention from numerous nations since it is essential for economic and social development that all countries have access to a more universal and advantageous financial system study used regional data to examine the connections between inclusive digital finance, inclusive finance to reduce poverty, and inclusive finance to boost the economy and help the poor.

Xu, Zhang and Zhou (2022) researched the link between DFI evaluation and poverty return governance, even if this instrument is growing in significance in the struggle against and relief of poverty. They used information from the 2017 China Household Financial Survey to look at how a micro-household FI indicator affected the likelihood of families falling back into poverty and how it functions. While they found that DFI through technology could help low-income Chinese families escape poverty, the reality is that this would depend greatly on family and location. Improving risk resistance by increasing household involvement in financial markets and asset allocation and raising household income through encouraging entrepreneurship and employment are the primary functions. Additional research reveals that DFI impacts poverty governance in three ways: structurally, nonlinearly, and through substitution with private loans. Implications for

comprehending and enhancing digital financial inclusion's efficacy in poverty governance are presented in this study.

Yakubi et al. (2022) examined the obstacles in the way of attaining digital FI, with an emphasis on the importance of digital and financial literacy. The coronavirus's impact, extent, and result were immediately obvious at the moment. This study illustrates how a lack of digital and financial knowledge may obstruct the achievement of digital financial inclusion in addition to demographic barriers. To create digital FI, this study outlined the essential components. Respondents' ages ranged from 18 to 60, and their levels of education ranged from intermediate to postgraduate. They came from both rural and urban areas, and their occupations ranged from unorganized to contractual, self-employment, with incomes ranging from 10,000 to 40,000. Data shows that levels of digital and financial illiteracy vary by economic bracket, area, and level of education. Many respondents exhibited clear signs of financial and digital illiteracy as a result of inadequate access, usage, ability, and application. One way to fix this is to get the right financial education and training.

Ye, Chen and Li (2022) looked into how fintech has helped reduce poverty in China's provinces. For the years 2011–2020, the sample comprises information from 31 different provinces. They use word frequency analysis and web crawler technology to gather data, and then they create a fintech index for each province that represents the financial industry's technological advancement. We provide a unique sparse support vector quantile regression model to distinguish the impact of financial technology on poverty reduction across China's provinces, given the wide variations in poverty levels among them. By utilizing the quantile estimators of the proposed method, poverty is "located" empirically. The empirical data demonstrate that fintech successfully alleviates poverty across all provinces, notwithstanding regional disparities in the development of the fintech

index. Further, low-income provinces are far more likely to see the beneficial impacts of fintech on poverty alleviation compared to high-income provinces. Consequently, lawmakers and practitioners must construct additional digital financial technology platforms, particularly in the regions of China that have a low per capita income.

Liu, Huang and Huang (2021) explored how digital FI differs in rural and urban regions in terms of drivers and processes. From 2014–2019, 1607 counties in China were used in the sample, which employs the panel threshold technique and fixed-effect model. That which follows from the information at hand: (1) To varying degrees, political engagement and the industrial economy are the two primary determinants of DFI growth in urban and rural regions. Conversely, secondary schooling is only one of many factors in rural regions. The elements that impact DFI are mediated by industrial upgrading and indirect finance; however, urban regions place greater emphasis on the latter. 3 There is a threshold impact in the link between financial development and DFI. Examining data from multiple financial expansion eras shows clear distinctions between the factors influencing DFI in rural and urban areas. These results should increase access to financial services in both urban and rural areas, resulting in more equitable and durable futures, in line with the present trend of encouraging innovative digital finance in China and the enhancement of DFI.

2.5 Fintech Contribution to Microcredit and Poverty Eradication

Hakeem, Olatayo and Dantala (2023) looked at how LAPO microfinance helped reduce poverty and how easy it was for women to get microcredit. The research relied on questionnaires to gather primary data. A total of 275 participants were chosen at random using a simple random selection technique. They used 275 survey questionnaires to get the lowdown on the female lenders and staff of LAPO Microfinance Bank. To everyone's surprise, 235 participants returned their completed surveys to the research. This prompted

the examination of the information gleaned from the surveys that were returned. The study employed "Analysis of Variance" (ANOVA) to examine the hypotheses. To investigate data, the researchers used descriptive statistics such as simple percentages, regression, and mean analysis. The results demonstrated that the poverty rate in Nigeria was adversely affected by independent variables such as the availability of microcredit to women, the interest rate on microcredit savings, and the duration of microcredit.

Dairo et al. (2023) examined the correlation between the prevalence of extreme poverty in “sub-Saharan Africa” (SSA), the region's socioeconomic infrastructure, its land tenure system, and the expansion of microcredit and micro entrepreneurship in particular. The study examined the expansion of microcredit, which is carried out by 297 microfinance institutions in 34 nations of the area, using main statistics. Microfinancing has shown to alleviate severe poverty for those who have utilised it extensively. When microcredit is used on a local level, it gives rise to a new breed of entrepreneur that resembles Schumpeter's model. New job opportunities, savings among borrowers, and a decrease in extreme poverty could result from the expansion of micro entrepreneurship, according to the study, which holds true in at least thirteen SSA nations.

Shah, Shah and Shah (2023) proposed a model for microcredit management that addresses the limitations and failures of the current microcredit systems in developing countries, particularly in India. Microcredit is a highly praised development strategy with this goal of ending social deprivation, social isolation, extreme poverty, unemployment, and hunger. Under the modern microcredit system being pursued in third world nations like India, it has failed miserably in maintaining its general legacy. The current strategy is imbalanced and has to be changed. That is why it is so difficult to come up with a workable Microcredit Management strategy that gets to the heart of the situation. Therefore, in an effort to tackle the insurmountable scale of economic poverty, unemployment, and social

misery worldwide, This paper respectfully suggests a microcredit management model built on Islamic economics.

Karim (2023) found significant relationship between Family Life Cycle (FLC) and poverty status of the family. Relationship between FLC and success of the poor in poverty alleviation programs, however; yet to examine. Recently, microcredit approach has expanded world-wide as an effective tool to alleviate poverty. But increasing number of dropouts has already emerged as a problem for these programs. Present study intends to explain this dropout problem using the FLC approach. Data of Grameen Bank microcredit program have been considered. Dropout has been found significantly higher among the participants of earlier FLC stages than later stages. It suggests that family factors, particularly FLC, are important in determining the success of the participants in poverty alleviation programs.

Kandie and Islam (2021) analysed household panel data to determine the effect of digital and conventional microcredit on poverty in Kenya. By employing methods like propensity score matching and difference-in-differences, it concludes that whereas traditional microcredit has no such effect, digital loans significantly worsen poverty. Digital loans, as opposed to traditional microcredit, are available to substantially better-off households, according to the results. To mitigate digital microcredit's negative effects on welfare, they highlight regulatory policies and behavioral measures.

Appiah-Otoo and Song (2021) looked at how household per capita consumption, a measure of poverty, was affected by fintech both directly and indirectly. Parts of financial technology such as third-party payment and credit were part of the study's purview. Information gathered from 31 provinces in China between 2011 and 2017 was examined. These supplemental measures, along with fintech, help reduce poverty in China, the study found.

Musa and Waziri (2019) looked at how microcredit initiatives in Niger state fared in terms of reducing poverty. This study established the statistical link between microcredit programs and poverty reduction using a quantitative method called as PLS-SEM 3.1.6 route modelling. Microcredit programs significantly contribute to reducing poverty, according to the study. This presumption was further supported by the respondents' socioeconomic evaluations. It has been noted that microcredit intervention programs can help reduce poverty if all relevant parties work together to create a policy framework that promotes openness and responsibility in the programs' execution. Inadequate budget allocation, political instability, corruption, and abuse of the rule of law were listed as some of the systemic flaws that the research said contributed to the ongoing poverty rate in Niger state.

Uguru et al. (2019) looked at how rural agricultural households in Northeast Nigeria fared when given microcredit to help alleviate poverty. The researchers felt there was a lack of empirical data linking microcredit to poverty reduction in this region. The 200 farm homes that made up the sample were chosen using a combination of multi-stage random and selective selection approaches. The majority of the data was gathered by structured questionnaires, and the analysis was done utilizing descriptive and inferential statistics. The majority of farm households' financing came from informal microcredit, according to results. Additionally, the results showed that 47% of the requested loan was disbursed, leading to a 47% increase in income for farm households. The poverty depth for the 62% of farm homes surveyed was 0.43 and the poverty severity was 0.38. Microcredit had a positive and statistically significant effect on farm households' incomes, according to regression analysis. This effect was found at the 1% probability level.

Okafor, Ezeaku and Ugwuegbe (2016) evaluated the role that microcredit had in Nigeria's fight against poverty from 1999 to 2014. How the expansion of microfinance

institutions influenced anti-poverty initiatives was also documented in the study proposal. They utilized "error correction model" (ECM) analytical technique to gain a sense of the correct model equation for us. The findings proved that microcredit is ineffective in alleviating poverty in Nigeria. Reducing poverty in Nigeria is positively correlated with the size of microfinance banks. Finding that interest rates significantly and negatively impact efforts to alleviate poverty is consistent with theoretical predictions. Because of the growing interest rate disparity and the inefficiency of microfinance firms, their research led them to the conclusion that microcredit has not helped alleviate poverty in Nigeria.

2.6 Reducing Poverty with Fintech Microcredit Innovations

Vine et al. (2024) examined new methods and talk about what they mean for preoperative treatment in this review. A paradigm shift is about to occur in preoperative treatment as a result of the growing knowledge of the human body and mind, as well as new technological capabilities. Rapid adoption of technology like artificial intelligence (AI) is driving a shift in healthcare towards a more holistic approach. In the end, doctors and health systems can find a brief synopsis of practical and efficient strategies to think about implementing. Up until August 2023, researchers combed through Web of Science, PubMed, Scopus, and the Cochrane Library to find any relevant literature. Main Points and Discoveries: Two recognized themes of creative methods were technological integration and personalized holistic treatment.

Nirmal and Ahmad (2024) looked at how financial technology has affected initiatives to alleviate poverty in China's provincial areas. 31 provinces' worth of data from 2011 to 2020 are included in the sample. They use web crawler technology and word frequency analysis to gather data and produce a fintech index for each province. This index represents the technological innovation in the financial sector. To study how fintech affects poverty reduction in specific regions, they establish a new sparse support vector quantile

regression model., taking into account the fact that poverty levels in China's provinces differ. Utilizing the quantile estimators from the suggested method, they quantify poverty's "location" empirically. Real statistics show that fintech effectively reduces poverty in all regions, notwithstanding regional variations in the development of fintech indices. Plus, fintech helps alleviate poverty more in provinces with low incomes than in those with high incomes.

Nugraha et al. (2024) adds to the current literature on fintech adoption drivers, specifically looking at how factors like government assistance, savings habits, perceived trust, and individual innovativeness affected the intents of users in Indonesia to adopt fintech after the COVID-19 outbreak. The research purpose is to determine how the ‘Technology Adoption Model” (TAM) has been impacted by post-COVID behavioral changes, savings habits, and increased financial literacy in Indonesian fintech users. Approach to the Study: A total of 536 Indonesians were polled by the researchers. Structural equation modeling with moderator variables was utilized to analyze the data. The empirical results show that the following factors significantly influence the intention to adopt: usefulness, trust, convenience of use, and personal innovativeness. Additionally, the study discovered that saving behaviors greatly enhance the impact of government support on adoption of fintech.

H, M and O (2023) This research compiles the findings of both local and international academics who have worked on the problem of comparing and contrasting the efficacy of applying both classic discriminant models of bankruptcy prediction and cutting-edge FinTech solutions. This study's findings were derived from its application of various methods of abstraction. To merge conventional approaches to bankruptcy prediction with cutting-edge FinTech tools, general and particular methods of abstraction were utilised. Many different FinTech solutions that are designed to anticipate business

insolvency were organised using a systematic manner. Lastly, the method of generalisation was employed to identify common digital elements that can be used to develop analytical capabilities for managing an enterprise's financial activities and risk management. Combining theoretical and empirical research methodologies, such as comparison and abstraction, is necessary to understand the capabilities and advantages of FinTech tools, how to apply various forecasting models, and how to put these tools to use. The results of the investigation were visualised through a variety of graphical analytic methods. The study's results show that integrating discriminant models with FinTech tools for bankruptcy forecasts can improve financial analysis and risk management during economic uncertainty.

Baba et al. (2023) investigated the connection between creative and innovative leadership and the adoption of financial technology, with a focus on the mediating roles of "perceived usefulness" (PU) and "perceived ease of use" (PEOU). This study polled 721 employees in India's financial services sector in order to gather its conclusions. The use of structural equation modelling allowed for the analysis of the data. Adoption of FinTech was positively and significantly impacted by creative PEOU, and PU, innovative leadership, according to the study's findings. Finally, the connection between innovative and creative leadership and the adoption of FinTech was mediated by PEOU and PU. Understanding the important factors of FinTech adoption is the goal of this study, which presents a fresh perspective for managerial operations. The research concluded that engineering managers could increase the rate of adoption by providing technology that is both easy to use and straightforward.

Petruk et al. (2023) delved into the theoretical underpinnings of fintech, a notion with its roots in functional economic sciences such as accounting, economics, and finance. While there are some current methods for making this idea public, none of them help the

state formulate a sound economic policy or provide sufficient parliamentary oversight in this field. They were able to decipher the definition's contents by employing historical, content, system, and functional approaches. By reviewing the literature, they were able to determine that four main schools of thought exist when it comes to defining fintech: technology, innovation and business model, industry, and service.

Chinoda and Mashamba (2021) analyzed the data from 25 African nations spanning 2011–2017 to determine the correlation between Fintech, FI, and economic inequality. The proper distribution of funds relies heavily on financial institutions. However asymmetric information and market inefficiencies might keep some businesses and households out of formal financial markets, which would hurt efforts at income equality. However, having easy access to capital is a crucial tool in the battle against poverty. Using structural equation modeling, we looked at FT, FI, and income inequality in 25 African states between 2011 and 2017. This research led to the creation of a brand-new double FFI Model. Thanks to its mediating function between financial technology and economic disparity, FI is vital in Africa's fight against income inequality. On the topic of policy, the research calls on regulators and legislators in Africa to foster innovation in Fintech and expand access to financial services.

Rauniyar, Komal Rauniyar and Kumar Sah (2021) aimed to show how FinTech innovation is leading the charge for digitization and digitalization, which in turn increases DFI. The study's findings highlight interrelationship between FinTech, financial innovation, and DFI, as well as critical gaps in the current financial industry and how these three factors might assist one another. Using a theoretical framework grounded in a survey of relevant literature, they examined the varying degrees of interdependence among FinTech, financial innovation, and DFI, drawing attention to the mutually beneficial and mutually destructive aspects of these relationships. With DFI's help, they present a

theoretical framework that shows the entire process by which the old financial ecosystem gives way to the new one. According to the research, FinTech will be around for a long time and will continue to be a valuable sector in the era of industry 4.0. Last but not least, they presented both the constraints and the possibilities for further research.

2.7 Fintech Transforming Microcredit for Poverty Relief

Tarigan and Mawardi (2023) found new ways to implement digital payment systems to improve financial services accessibility and reduce poverty in North Sumatra. For those who had trouble utilizing traditional banking services in the past, recent advancements in digital payment systems have created new opportunities. Social projects in the Sumatra region can increase their influence and reach in the battle against poverty by utilizing digital technologies. In the research process, surveys and secondary data sources are used. Social program participants in the Sumatra area were the target audience for this survey. Then, the data was examined to find out how digital payment systems, FI, and poverty reduction were related. FI and poverty alleviation in the Sumatra region is positively impacted by innovations in digital-based payment systems, according to the results.

Kandie and Islam (2022) examined how digital microcredit affects poverty in Kenya using home panel data and contrasted its effects with those of traditional microcredit. Propensity score matching and difference-in-differences are two examples of techniques that they find that digital loans have a considerable negative impact on poverty while traditional microcredit has no meaningful influence at all. Comparing digital loans to traditional microcredit, the results show that households with relatively better financial standing have access to them. They focus on behavioral techniques and regulatory policies that may lessen the welfare-degrading effects of digital microcredit.

Goswami, Sharma, and Chouhan (2022) looked into the crucial success elements that affect disruptive fintech adoption for FI in rural India. To prepare rural areas for the eventual adoption of fintech, the current research examines the effect of technology on entrepreneurship in underdeveloped regions empirically. For testing hypotheses, the quantitative method makes use of inferential statistics. Structural equation modelling and exploratory factor analysis are being used to study the effect of financial technology on financial inclusion in rural India. Findings indicate that social influence factors positively affect behavioral intentions to adopt management technology in rural areas of India. A positive relationship exists between an end-user's behavioural intention and their usage of fintech products and services.

Jidnyasa and Agrawal (2022)Financial services have seen a transformation thanks to fintech businesses. Along with the current conventional framework, fintech companies have shown to be valuable, and they may be playing a major part in fostering financial inclusion. However, contribution of fintech companies to increasing FI is not given enough thought. Thus, the goal of this piece is to go over how fintech businesses contribute to greater FI. This research is exploratory. The study's conclusions demonstrate how financial technology firms have improved low-income people's access to banking services and products through innovative technology, fostering financial inclusion in all nations, but especially in emerging ones.

Emara and Mohieldin (2022) examined how the spread of FinTech, might influence the SDGs' ability to eradicate severe poverty by the year 2030. The study divided the data into three categories: internet penetration rate, fixed broadband subscriptions, and mobile cellular users in order to estimate the likelihood of FinTech adoption. The "Generalised Method of Moments" (GMM) was used from 2004 to 2018 to process the annual data of 127 emerging and rising economies, including those in "Sub-Saharan Africa" (SSA) and

"Middle East and North Africa" (MENA). Additionally, the study incorporates a gap analysis in comparison to the World Bank's poverty objective of 3% and the United Nations' poverty target of 0%. The study's findings show that fintech can significantly reduce poverty, but if MENA and SSA nations just rely on the development of fintech services, none of them would be able to meet the UN's 2030 target of zero percent poverty. Furthermore, FinTech advancements will lower extreme poverty below 3 percent in all MENA nations (save for Egypt, Djibouti, and Yemen) and only three (Mauritius, Seychelles, and Cabo Verde) in the SSA area. Findings from the study highlight the need for improved governance and human capital accumulation in the MENA and SSA regions for FinTech to reach its full potential and aid in the fight against extreme poverty within the context of achieving the SDGs. It also shows that reducing poverty involves more than just digital benefits.

Emara and Mohieldin (2021) examined how the spread of financial technology, or FinTech, may affect SDGs' potential to end extreme poverty by 2030. The study utilized the system GMM dynamic panel estimation approach from 2004 to the most recent available data in 2018, and it uses annual data for 45 SSA and 12 MENA nations, as well as 70 developing markets and expanding economies outside of these two regions. The three independent metrics used to gauge the uptake of financial technology are the internet penetration rate, both the mobile phone subscriber rate and fixed broadband user rate per 100 persons. Preliminary results show that FinTech initiatives help alleviate extreme poverty in all regions studied (MENA, SSA, and the overall sample). To cover all bases, the study's second component incorporates a gap analysis in comparison to four poverty targets: 5% set by the World Bank, 0% by the United Nations, and 1.5% and 3% by two intermediaries. Comparing the MENA and SSA regions, the gap analysis suggests that the former is in a better situation. Except for Yemen and Djibouti, all MENA nations will

witness a significant decline in extreme poverty, falling below 5%, thanks to improvements in FinTech. Out of the 45 countries in the SSA, four—Mauritius, Cabo Verde, Seychelles, and Gabon—have succeeded in bringing their extreme poverty percentage down to 5%.

Dang and Vu (2020) explored how MFIs in Vietnam can effectively adopt Fintech to overcome obstacles in providing financial services to marginalized communities, such as small enterprises, residents in rural areas, and those moving from cities. The financial sector in Vietnam has expanded significantly, yet despite this, MFIs continue to confront numerous obstacles when trying to offer financial services to underprivileged clientele, such as small enterprises, rural residents, and urban migrants. This void should be filled by the recent global fintech expansion, which has included Vietnam. The authors suggest new ways for the microfinance sector in Vietnam to operate. A few of the most recent results of FinTech's application to the microfinance industry are scalable business models, better access to a variety of customer segments, and improvements in the quality of products and services. Fintech is helping MFIs in Vietnam create new offerings. By utilizing technology and digital solutions, MFIs in Vietnam have been able to progressively meet their expansion goals. This has made it possible for them to reach a wider geographic audience, provide better products, provide in-depth customer understanding, and boost operational efficiency.

A. Liu et al. (2023) indicated that microfinance institutions are still significantly increasing the impoverisher’s access to basic financial services. Muhammad Yunus and Grameen Bank received the Nobel Peace Prize in recognition of their outstanding efforts to fight poverty, which elevated microfinance to a new level. However, subsequent significant randomized trials revealed that some clients only saw marginal income gains, and most recently, it became clear that widespread moratoria on microloan repayment during COVID-19 was required. To assist readers in understanding who microfinance

serves, how it benefits them, and why customers return, this volume gathers evidence. It also points out microfinance's shortcomings and the reasons why lofty goals for eradicating poverty have not been met.

2.8 Digital Finance: Microcredit and Poverty Elimination

El-Hadidi (2022) showed that although microfinance has had mixed results, it has long been viewed as a solution to the world's poverty problems. Although there is still poverty, advances in financial services industry, or fintech, could have a big influence. These developments stem from the introduction of digital technology and the loosening of banking laws in many countries after the 2008 financial crisis. To make recommendations for legislative changes and how fintech and microfinance could advance to reduce poverty both internationally and in Egypt, This paper offers a case study from Egypt after reviewing the academic literature on the topic.

Chen and Zhao (2021) investigated how the widespread use of digital banking in China can contribute to poverty reduction in rural areas new approach to alleviating rural poverty may emerge as a result of China's extensive participation in digital banking. In certain aspects, it is possible to combine digital financial indices of cities at the prefectural level with microdata on rural households from the 2017 "China Household Finance Survey" (CHFS). This category includes techniques such as alternative specifications, the instrumental variable approach, and the exclusion of outlier observations. As per the findings, digital finance considerably lowers rural Chinese households' absolute and relative poverty. They also present data suggesting that the expansion of social networks, easing of credit and informational barriers, and encouragement of entrepreneurship are likely to account for the impact of digital finance on reducing poverty. The results expand body of knowledge on financial poverty reduction and serve as a roadmap for developing

public financial policies targeted at lowering poverty in other countries, especially emerging ones.

Gautam et al. (2021) investigated how financial technology affects poverty in India and to experimentally assess how financial technology affects poverty scores. They take into account information for three fiscal years, or from 2018 to 2020, for twenty-two Indian states. Panel data analysis looks at the study's hypothesis. The findings indicate a negative relationship between India's poverty index and the financial technology index. According to the current study, The government should put more effort into creating financial technology in order to promote economic growth, stability, and the eradication of poverty through infrastructural improvements that enhance banking services.

Mushtaq and Bruneau (2019) examined how "information and communication technologies" (ICTs) can pave the way for FI, which in turn could tackle inequality and poverty. Using ICTs, this research looks at how FI could help reduce inequality and poverty. The panel dataset used for this purpose spans the years 2001–2012 and includes sixty-two countries. Financial inclusion is divided into two categories. This category is limited to commercial banks and "microfinance institutions" (MFIs). Official financial institutions cater to wealthy and well-off customers, while MFIs present themselves as lenders to the underprivileged. Research in development finance indicates that low-income people can be helped to escape poverty with the right kind of financing if it's available quickly and easily, yet many of these people still don't have bank accounts. Around the world, there is consensus about the significance of MFIs in helping households that are financially excluded by offering credit and other financial services right to their door. Investigating factors that influence financial inclusion and MFIs is therefore crucial, especially in emerging nations. The initial data analysis indicates that there is a negative correlation between poverty and inequality and ICT diffusion, but a positive association

between the two. Additionally, both ways that financial inclusion is measured have been shown to reduce poverty, according to study results. Using ICT elements as tools for FI has also been shown to enhance economic growth and lessen inequality and poverty.

Awojobi (2019) systematically examined how microcredit helped alleviate poverty A systematic review of microcredit's impact on poverty reduction was conducted in this study. Observational, comparative, and quasi-experimental research published between 2008 and 2018 were the focus of a thorough search across five literature databases, publications lists, and websites. The review evaluated the quality of both qualitative and quantitative research that was included in it. Twenty studies satisfied the inclusion criteria. These studies demonstrated the influence of microcredit on a decrease of poverty among small-scale merchants who get microcredit. Of these studies, seven dealt with microcredit and poverty alleviation, and fourteen with microfinance and poverty reduction. Eight of the research used mixed methodologies, one included a qualitative analysis, and the majority were quantitative. Nineteen of the examined research agreed with the concept that microcredit helps reduce poverty, while only one study disagreed. The review's findings suggest that while microcredit has the potential to be an effective weapon in the fight against poverty, there are still certain obstacles standing in the way of its widespread accessibility. Government action is required to revise its microcredit policy.

Ageme et al. (2018) investigated microfinance's moderating effects on financial inclusion's ability to alleviate poverty. To collect data, participants filled out self-administered surveys. A total of 384 microfinance bank clients from three senatorial districts in Nigeria's Kebbi State filled out the survey. The participants were chosen by use of straightforward random sampling techniques. Researchers looked into the correlation between the variables by employing "Partial Least Square" (PLS)-"Structural Equation Modelling" (SEM). Results indicate a strong correlation between FI and reduced poverty.

Microfinance also affected the link between the investigated factors, according to the results. To enhance FI in rural areas and microfinance's efficacy in alleviating poverty, the research recommends expanding the scope of microfinance to include loans for education, technology support, skill development, and household appliances, among other things.

Agrawal and Sen (2017) explored the development and impact of India's microfinance revolution as a means of poverty reduction. Microfinance originated in India due to the pressing necessity to provide the necessary financial services to those in need so they may raise their standard of living through the organized sector. Microfinance organizations have made significant progress in enacting change by giving the impoverished and disadvantaged access to capital. Additionally, the digitisation of microfinance institutions has become the new norm, and these organisations are constantly pursuing technological advancements to improve efficacy and efficiency. This study explores the development of India's microfinance revolution as an effective means of reducing poverty. Microfinance fills the need left by institutional financing, but its reach is too narrow. The sustainability of the microfinance institutions is under doubt. To support the development of the nascent microfinance industry while tackling the trade-off between outreach and sustainability, a comprehensive project is needed. This essay outlines several areas in which government intervention is necessary.

Rahman (2024) investigated the relationships between “energy poverty” (EP), FinTech lending, FI, and “economic development” (EG), with energy poverty serving as a moderator being the primary objective. In this study, econometric models including Pooled OLS, 2SLS, Random Effects, Fixed Effects, and 2 Step System GMM were applied for quantitative analysis. Qualitative assessments use NCA and fsQCA. Comprehensive requirements and sufficiency information are provided by the fsQCA and NCA, while robustness testing and quantitative validation are provided by econometric models. The

study concluded that as more people have access to power, there is less energy poverty and hence less impact of FI on GDP development. Furthermore, the study found that in areas with significant levels of energy poverty, FinTech investment has less of an impact on GDP development. The fsQCA and NCA concluded that energy poverty is a serious problem that can be used to slow down the rate of rapid economic growth. The econometric models also demonstrate that lower energy access and DFI can hinder economic growth. FinTech loans have also contributed to economic growth.

Babar (2023) investigated the relationship between FinTech and FI in 144 countries using information from the World Bank's 2017 Global Findex. A few criteria were taken out of the study to quantify the FI variable, and a small collection of metrics was chosen to assess the FinTech's impact. The results indicate a strong association between FI among women and fintech as the dependent and independent variables. The survey also discovered that when it comes to FI, high-income countries are more inclusive than low-income ones. Ending poverty and advancing women's liberation can be achieved by evaluating the impact of FinTech on the population excluded from the financial system.

Thorsrud (2017) examined how financial inclusion is affected by fintech usage and financial literacy. According to this study, fintech is a disruptive innovation that uses technology and the internet to promote the implementation of financial transactions in financial industry. A targeted sampling strategy was employed to choose a sample of Tegal residents for the survey. People who reside in Tegal and meet the age requirements over the age of fifteen make up the sample. Data from the questionnaire was given to the participants. Over 100 responders can fulfil the criteria and do analysis. The data analysis satisfies the prerequisites for reliability assessments and validation. Multiple regression analysis is used for hypothesis testing. Financial inclusion is significantly improved by financial literacy, according to the analysis of financial literacy findings. Fintech

significantly improves FI, according to findings of a data analysis study on the industry. This research indicates that utilizing fintech and raising financial literacy levels can lead to greater FI.

Lyons, Kass-Hanna, and Greenlee (2020) evaluated the relationship between digital and financial inclusion and poverty in seven developing countries in South Asia and Sub-Saharan Africa through the 2017 Intermedia Financial Inclusion Insights surveys. They find that increases in a number of financial and digital inclusion indices are associated with notable reductions in poverty, particularly food insecurity. Although there are significant regional differences between the results for rural and urban populations overall, the results are strong across the metrics. The possession of traditional bank accounts is associated with the largest and most reliable decreases in poverty. Significant importance also lies in the utilization and accessibility of mobile money accounts and non-bank financial organizations. They perform robustness checks for selection and endogeneity. Traditional and non-traditional forms of financial support continue to rise, and the results show that DFS is crucial to helping developing countries eliminate poverty.

Shah and Ali (2022) analyzed previous works on the topic of FI from a variety of countries and periods. Factors such as income, gender disparities, ICT, financial regulation, stability, literacy, innovations, cost of services, political and economic environments, and ICT are highlighted in this study as main determinants of financial inclusion. FI varies greatly among countries because of these factors. Additionally, This study focusses on a few supply-side and demand-side components of financial inclusion. The number of bank accounts, ATMs, branches, and usage; the quantity of savings; and the ease of lending and using these variables are the primary financial indicators (FI) included in the study. The study did not cover all there is to know about FI, thus further investigation is necessary.

Saleem (2021) The demand for financial services has led to a significant growth in fintech. The increasing risks greatly impede the adoption of Fintech. The research highlighted the risks of offering financial services via financial technology. Concerns like as regulatory uncertainty, cyber risk, operational risk, and strategic risk have surfaced as a result of the Fintech revolution, according to the data that is now available. This study set out to investigate the present Fintech revolution and the intended use of Fintech, both of which have been adversely affected by emerging risks. Adoption is cautious because people are wary of the risks involved. Auditors of fintech companies can significantly reduce these risks by putting robust safety measures in place. The study looked at the moderating effect auditors have in the management of Fintech risks through the implementation of risk management techniques. A multimethod, quantitative investigation is carried out. Information was gathered via surveys from 200 participants from various Fintech firms in Pakistan. Stata version 14.0 is used for statistical analysis used in hypothesis testing. Perceived risks are rising in tandem with the Fintech trend, according to the survey. The correlation between the Fintech revolution and the propensity to adopt Fintech was shown to be weaker when perceived risk was taken into account. Researchers also found that auditors' risk management mitigates the correlation between Fintech's disruptive impact and growing threats.

Maknickienė and Lapkovskaja (2024) The constantly evolving business, financial, and technical landscape is reflected in fintech, a three-dimensional phenomenon. The primary themes and a map of the fintech effects field were established through the bibliometric examination of research literature. Scientific publications' systematic arrangement shows how sociodemographic disparities and economic growth impact growth of fintech. Government laws not only help the fintech sector overcome geopolitical challenges, but they can also accelerate the digitisation of financial services. The business

ecosystem, human behavior, and sustainable development are the three domains where fintech's influence has been identified. They were able to pinpoint the ways that fintech affects different professions because to the study that author summarised. Making smarter decisions and comprehending the phenomena of fintech influence requires a nuanced approach.

Rashid (2023) examined how COVID-19 movement restriction orders affect MFSs in the short- and long-term. The monthly transaction data from three most popular MFSs from December 2016 to May 2022 is subjected to an autoregressive distributed lag model (ARDL). Over time, movement restriction orders are linked to a considerable rise in P2P and P2B transactions; however, the impact on remittance transfers is positive and statistically insignificant. Additionally, this analysis affirms the critical function that movement restriction orders play in stepping up Bangladesh's financial inclusion through MFSs, utilizing the number of ATM transactions as a gauge of FI. “Error correction model” (ECM) coefficients suggest that to meet the national target, officials need to move quickly to create workable plans to sustain the short-term momentum of the demand for MFSs.

Niño-Zarazúa (2013) examined the broader effects of microcredit on low-income individuals, particularly those outside of borrowing households, with a focus on urban poverty in Mexico. This research makes two significant additions to the current microcredit literature. To start, it looks into the ways that microcredit reaches low-income people outside of households. Microcredit may indirectly help impoverished workers through greater employment, but only if it lends to the vulnerable non-poor. Additionally, they examine urban poverty in Mexico. Since manual labour is frequently the sole means of subsistence for the most disadvantaged urbanites, this is an important consideration. Microcredit has substantial trickle-down benefits that impoverished labourers can reap,

according to the research. However, these benefits don't materialize until households who take out loans to start businesses start making more than the poverty line.

Ugochukwu et al. (2024) explored the important part that Fintech plays in smart city programs' efforts to promote environmental sustainability. To achieve ultimate aim of developing sustainable urban ecosystems, advancements in FinTech play a crucial role in improving management of resources, raising level of public participation, and encouraging models of collaborative governance. Looking back over time, this Review follows the development of sustainable smart cities, showcasing how technical progress and the incorporation of Fintech solutions have had a revolutionary effect. A look at the history of sustainable smart cities, from the first ideas in urban planning to the rise of smart technologies in modern day, reveals how innovation has been key in solving city problems. The emergence of fintech has sped up this change by providing new financial services that are ideal for green financing, investments in renewable energy, and the creation of environmentally friendly infrastructure. Fintech systems make it easier to distribute resources wisely, make transactions more transparent and safer, and give people more agency in environmental projects. Fintech solutions can help cities achieve their development goals in a more sustainable way, which in turn can boost economic growth and social fairness.

2.9 Tackling Poverty with Fintech-Enhanced Microcredit

Khan et al. (2024) identified issues with microfinancing and determined its impact. Three districts of Punjab province were chosen at random for the cross-sectional study. Using lists provided by MFI regional offices, 200 microfinance beneficiaries were selected from each district. Using SPSS, they analyzed data collected from 600 interviews. The results showed that people used microcredit for both agricultural and social reasons. After receiving microcredit, the results demonstrated an increase in the percentage share of

income from farms. When compared to other variables, microcredit has less effect on things like family income, level of income, and access to healthcare and education. Observation, business counseling for the frontman, and regular borrower meetings can help manage issues like timely repayment and distribution. Nevertheless, a system of incentives for paying back loans can work.

Rahman (2024) showed that energy poverty is mitigated by increased access to electricity, which in turn reduces the effect of FI on GDP growth. Also, energy poverty reduces influence of FinTech loans on GDP development, according to the research. Both the fsQCA and the NCA findings point to energy poverty as an essential and sufficient moderator of rapid economic expansion. Moreover, econometric models suggest that DFI in regions with inadequate power infrastructure can dampen economic expansion. Loans made possible by financial technology have contributed to economic growth. To sum up, all econometric models show that relationship between FinTech lending, economic growth, and FI is moderated by energy poverty. The study's conclusions offer the first thorough examination of how energy poverty affects the correlation between GDP growth and financial inclusion.

Thanh Phan, Vo and Vo (2022) The potential of rural microcredit to mitigate poverty susceptibility is the focus of this research. Microcredit borrowing plays an important part in home businesses and affects the likelihood of future poverty; this is captured by a theoretical framework. They use the 2008–2016 data set of the Vietnam Access to Resources Household Survey to look into this. When people in rural Vietnam have access to microcredit, their risk of falling into poverty drops significantly, according to the findings. On top of that, it would appear that higher-income households are the most adept at using microcredit, in contrast to lower-income households. Using the propensity score matching method, these results are determined to be robust.

Liu et al. (2021) provided a hybrid group decision-making method that evaluates financial options for green energy investment projects by utilizing fintech. To begin, alternatives to traditional bank funding for green energy investment projects are considered, taking into account a variety of dimensions. So far, they have taken into account the viewpoints offered by the balanced scorecard. The next step is to complete the analysis of group decision-making based on consensus. They go on to say that further fintech-based funding options for green energy investment projects can be found in their outlined influence-relation paths. Here, they employ the DEMATEL methodology, which stands for spherical fuzzy decision-making trial and evaluation. This study offers a fresh perspective on performing due diligence on fintech projects funded by renewable energy investments. It achieves this by fusing spherical fuzzy DEMATEL with integrated and group decision-making techniques. According to the results, income-sharing and incentive models care more about meeting consumer expectations. When it comes to the peer-to-business financing model, this study also found that organizational competency is the most essential factor. On the other hand, it was determined that profits are the most important factor in the equity share model.

Opeyemi Damilare et al. (2021) find out how much of an impact microcredit from the Bank of Agriculture had on the income and poverty levels of chicken egg producers in the Nigerian state of Oyo. A well-structured questionnaire was utilized to gather primary data from the chicken egg producers that were sampled. The research surveyed 120 people using a multistage sample technique. Descriptive statistics, budgetary analysis, the "Tobit Regression Model," and the "Foster-Greer-Thornback" (FGT) poverty index were among the statistical tools used to assess the data. Microcredit users were overwhelmingly male (90%), while non-users were overwhelmingly female (81.7%), with an average age of 44 for users and 53 for non-users, according to the socioeconomic characteristics' analysis.

The FGT poverty index measures the extent, frequency, and severity of poverty (P0, P1, and P2) for those who do not utilise microcredit, which is significantly higher than for those who do. The index considers all types of chicken egg producers.

Emara and Mohieldin (2021) looked at the SDGs for reducing extreme poverty by 2030 and how their viability is impacted by the growth of FinTech. From 2004 to the most recent data (2018). This study included annual data from twelve MENA countries, forty-five SSA states, and seventy growing economies and rising markets outside of any one area. They used a GMM dynamic panel estimation approach that was applied to the entire system. Indicators of the prevalence and use of financial technology overall include internet penetration, the number of homes with fixed broadband connections, and number of households with mobile cellular subscribers. An initial analysis of the sample as a whole and in the MENA and SSA regions reveals that policies promoting financial technology considerably lessen extreme poverty. Using a gap analysis in comparison to four poverty targets, the second part of the study covers all possible outcomes. The 0% from the UN, the 5% from the World Bank, and the 1.5% and 3% from two middlemen. There is hope in the MENA region compared to sub-Saharan Africa (SSA) because the gap study predicts that every country will be able to reduce extreme poverty to less than 5% by improving access to financial technology. Only four out of forty-five nations in the SSA region have succeeded in reducing extreme poverty rates to 5%: Cabo Verde, Seychelles, Gabon, and Mauritius.

Billah (2021) examined the function of traditional microcredit in reducing poverty is the primary goal of this research. There has been an effort to reduce poverty in Bangladesh by both the government and “non-governmental organizations” (NGOs). NGOs provide microcredit to low-income individuals so they can raise their income and improve their standard of living. Microcredit initiatives have helped a lot of low-income

people, according to the report. Household income, savings, and spending are all profoundly affected by micro-credit. Because there is a great deal of diversity among the poor in terms of socioeconomic position, gender, background, family structure, and other factors, the effects of poverty can vary greatly from one group to another. According to the results, microcredit is a tool that can help people save money, earn more money, and ultimately help reduce poverty. Nonetheless, it is not just a tool for reducing poverty; it is an essential component in raising living standards of the impoverished. According to findings, borrowers' spending habits and income levels shift significantly after taking out a loan.

Billah (2021) analyzed whether microcredit is widely accepted as a tool to combat poverty in the mainstream of economic science. It is theoretical. There are three main parts to the study. Three distinct perspectives on poverty are laid out in the first. Microcredit is the topic of the second one. Lastly, the final section offers some thoughts on relationship between microcredit and poverty as it has been discussed in the academic literature. Some final thoughts are offered at the end of the piece.

VALEA, Diagne and Honvoh (2018) used 2004 Ghanaian data to measure the effect of microcredit access on poverty. Microfinance access positively affects the relative poverty index of households across the board, according to the propensity scores matching method. On the other hand, this effect varies depending on where you live. True, microcredit lowers the poverty index in cities, but it does little to help those living in rural areas. Microcredit availability's effect on poverty rates has also been studied using quantile regression. Microcredit helps the wealthiest households more than the poorest ones, according to the statistics, which show an increase in the second and third quartiles. This finding lends credence to the microfinance schism concept that has been criticised in previous research.

CHAPTER III:

RESEARCH METHODOLOGY

3.1 Overview of the Research Problem

The prevailing global challenge of poverty continues to primarily engage the poor regions with restricted access to financial services. Widely established traditional financial institutions often failed to reach the marginalized and the poor because of the barriers resulting from high transaction costs, burdensome lending criteria, and geographical limitations (Banerjee, Karlan, et al., 2015). As an outcome, the unbanked population received small loans through microcredit as an innovative financial inclusion method designed to encourage entrepreneurship and independent economic status. Even with its potential to ease poverty, a lack of scalability combined with challenges of reaching out to rural or underserved areas has hindered its maximum potential (Martinez Peria, 2006). Recently, FinTech innovators have been described as a potentially revolutionary means of bridging these gaps and enhancing the role that microcredit plays in the fight against poverty and sustainable development (Quintero & Quintero, 2023).

FinTech refers to financial services that are provided through technology. Peer-to-peer lending, digital payments, mobile banking, and blockchain technologies have all been promoted by the company (Gomber et al., 2018). Innovative financial structures improve access, lower prices, and make use easier for institutions and users (Arner et al., 2015). The creation of this nexus has driven pathways that offer assistance denied populaces pick up get to credit and money-related administrations for the reason of progressing budgetary incorporation. By taking advantage of portable stages and other advanced arrangements, FinTech approaches can overcome an extent of boundaries that for a time have prevented low-income individuals from getting to (Demirguc-Kunt et al., 2018).

Even though the merger of FinTech with microcredit frameworks has appeared as a guarantee for combating destitution, it remains to a great extent understudied and is plagued with a few troubles. Ponders appear that microcredit may move forward the lives of individuals but does not ordinarily diminish destitution levels by a considerable degree (Banerjee, Duflo, et al., 2015). An innovation partition, especially inside nation regions, creates extra challenges for money-related consideration since advanced gadgets and web access may be very restricted (Goswami et al., 2022). Other than, challenges counting financial literacy, administrative issues and fear concerning information security increase extra challenges for the viability and (Ediagbonya & Tioluwani, 2023).

The goal of this article is to examine FinTech's dedication to microcredit and how it affects the degree of destitution. This ponder explores points of interest and obstructive components that might avoid its far-reaching convenience. The quickened development of FinTech legitimizes the assessment of its commitment to amplifying the scope and productivity of microcredit for cantered populaces and the end of destitution (P. K. Ozili, 2021). The question is whether the adoption of microcredit solutions via FinTech can transmit the formalities of traditional microfinance models, specifically in terms of scale, reach, and sustainability (Thomas & Hedrick-Wong, 2019). This study attempts to look into the elements that contribute to FinTech's effectiveness in providing microcredit in addition to other things. such as regulatory structures, technological infrastructure, and user awareness, to give a complete understanding of its role in mitigating poverty.

By examining these topics, this study will contribute to the expanding corpus of research on financial inclusion and the influence of technology on development. The results will provide insights into how FinTech can complement or enhance existing microcredit models, and provide policy recommendations to confirm that these innovations lead to poverty reduction (Jha & Dangwal, 2024). Essentially, this study seeks to advance

knowledge on how FinTech can be leveraged as a means to support inclusive growth, especially in poor areas where traditional financial services have not brought about meaningful change (Donovan, 2012). As a result, the goal of the research is to evaluate how FinTech might make microcredit a more potent weapon in the battle against poverty while also pointing out potential obstacles and opportunities that may arise from its integration.

3.2 Research Purpose and Questions

This study's primary objective is to assess how Financial Technology (FinTech) has altered the microcredit sector, with a focus on how it might lower poverty and promote economic expansion. The research seeks to examine how FinTech technologies might effectively tackle conventional obstacles encountered by microfinance institutions, including restricted availability, insufficient financial knowledge, and elevated operating expenses. The goal of the research is to provide a thorough analysis of the impact of FinTech on the assessment of microcredit, accessibility, financial stability, growth of small businesses, and capacity building. It strives to give an in-depth understanding of how technology improvements might enhance the advantages of microcredit. This study's main goal is to offer useful recommendations on how FinTech might be used to improve financial inclusion and advance socioeconomic development to decision-makers in government, the financial sector, and development organisations.

Research Questions

1. What are the various benefits provided by the Fintech in assess the microcredits?
2. How does fintech influence the accessibility of microcredit?
3. What is the role of microcredit in enhancing economic well-being, small business generation and enhancing Capacity Building, and Financial Literacy?
4. What is the role of microcredits in poverty eradication?

5. What are the strategic recommendations for policymakers, financial institutions, and development organizations on how to effectively utilize fintech for poverty eradication through microcredit?

3.3 Research Design

The present investigation utilised a research methodology that utilised a quantitative technique to investigate the function of FinTech in microcredit and its consequences for the elimination of poverty. This study is suited for quantitative research since it makes it easier to gather numerical data that can be evaluated to identify trends, correlations, and findings that can be applied broadly (Weyant, 2022). In particular, a cross-sectional survey design was employed in the study. In the latter research method, a sizable sample of respondents' data is gathered all at once. Such a design shall be appropriate for capturing the present state of FinTech adoption in microcredit schemes and its effects on poverty levels across different regions and demographics.

The reason for using a quantitative design is that an objective, measurable body of evidence would be provided to support or refute the hypotheses. The objective of the study was to evaluate the relationship between the adoption of FinTech in microcredit and the reduction of poverty. To this end, statistical techniques such as regression analysis, correlation, and descriptive statistics were employed to find trends and relationship patterns that met statistical significance (Taylor et al., 2010). It is well-suited for testing hypotheses the study has set in regard to how FinTech opens up microcredit accessibility, reduces financial exclusion, and contributes to poverty alleviation.

The quantitative approach has more advantages. It is capable of processing large volumes with increased accuracy and reliability of the results (Djamba & Neuman, 2002). Data were collected from microcredit recipients, FinTech service providers, and financial institutions using a structured questionnaire. Questions focused on the respondents'

experience with microcredit, the extent of FinTech integration, and the perceived impact on economic conditions. The use of closed-ended questions ensures uniform responses, thereby being easier to count and compare other sub-groups (Babbie, 2010).

Additionally, a quantitative design offers the advantage of replicability and transparency (Ingleby, 2012). The methods and data collection processes can be replicated in future studies, allowing other researchers to validate the findings or apply them to different contexts. Furthermore, the structured nature of data collection reduces bias and enhances the study's overall validity and reliability (Trochim, 2006). By employing statistical techniques, The study is a significant contribution to the field of financial inclusion and poverty reduction since it may offer solid evidence on the effect of FinTech on eradicating poverty.

3.4 Population and Sample

People and small business operators who had previously interacted with microcredit institutions that integrate the solution of FinTech into their financial services formed the study population. Respondents were drawn from various geographical locations, especially in low-income areas whose exclusion from finances is quite significant. The research focused on specific individuals subjected to both microcredit and FinTech platforms. This backdrop makes it possible for the research to look at how the technologies affect poverty in a real-world situation. This study employed easy sampling for sample selection. Convenient sampling is the process of choosing research participants who are willing and able to take part in the study (Etikan, 2016). This sampling technique was adopted due to the logistical limitations and inaccessibility of the distant or remote areas where microcredit institutions are found. Even with generalisability, convenience sampling has been applied widely in similar studies especially when the studies face time

and resource constrains (Taherdoost, 2018). The technique also permitted easy and rapid collection of information from a huge population within a relatively short period.

300 participants were involved in this study, and indeed, the result is a robust sample size which is good enough for the analysis of how FinTech relates to microcredit and poverty eradication. Participants include all possible groups of age and gender, and educational levels to allow the understanding of how FinTech impacts the various segments of the population to give adequate projection (Creswell, 2003). In turn, the information provided by these participants was pertinent in eliciting perspectives on the application of FinTech to enhance financial inclusion and lessen poverty, which served as the basis for the study's results and conclusions.

3.5 Participant Selection

The convenient sampling was used to select the participants of this study, who were professional in FinTech and microcredit with adequate experiences and breadth of understanding on these topics. This sampling method was selected as it allowed the researcher to focus on specific individuals who might offer valuable perspectives into the position of FinTech in microcredit and how will it help eradicate poverty (Palinkas et al., 2015). Given that the first objective of this study was related to microcredit clients, FinTech companies, officers in Microfinance institutions and bodies regulating microcredit services were selected as participants, since their experience added value for all stakeholders engaged into different levels of FinTech integration in microcredit.

Inclusion Criteria

Criteria were connected to incorporate members to form beyond any doubt the significance and unwavering quality of the information collected. The consideration criteria required that members:

1. Locked in in either the microcredit or FinTech divisions, specifically, as either specialists or individuals. administrators, or buyers of these administrations.
2. They had, at the slightest, a year of encounter in their parts related to FinTech. or microcredit segment. Members had an adequate involvement edge, upheld by this encounter. introduction to offer nitty gritty outlines of the operations and results of FinTech in microcredit.
3. Those curious about taking an interest within the ponder are willing to assent to the educated conditions, making interest deliberate. inclusion and ethical compliance.

Exclusion Criteria

Alternately, members were avoided from the think about on the off chance that they met any of the taking after criteria:

1. To keep the center on those who might allow sector-specific bits of knowledge, people missing coordinate association in either the FinTech or microcredit divisions were avoided.
2. Members who had less than one year of involvement in their areas were cleared out out since their constrained time outline might compromise the lavishness and unwavering quality of the information (Cohen, Manion, & Morrison, 2018).
3. Those who did not offer educated assent were avoided in order to preserve the moral quality of the investigation.

The criteria were created to improve the quality and validity of the results and ensure that the investigation depended on learned and experienced members.

3.6 Instrumentation

1) Fintech in Microcredit

Statements	**1**	**2**	**3**	**4**	**5**
Ease of Application Process					

The fintech platform provided clear instructions.					
I encountered technical difficulties during the application process.					
The fintech platform allowed easy uploading of required documents.					
Flexibility in Repayment Options					
I found it easy to customize my repayment plan according to my financial situation.					
The fintech platform provides options for adjusting repayment amounts.					
The fintech platform offers grace periods or flexibility in case of financial emergencies.					
Customer Service Quality					
The customer service representatives were helpful and knowledgeable.					
The communication channels (e.g., email, chat) were easily accessible.					
I felt valued and respected as a customer when interacting with customer service.					
Convenience of Transaction					
The fintech platform provided convenient methods for conducting transactions (e.g., payments, transfers).					
I found it easy to navigate through the transaction processes on the Fintech platform.					
The fintech platform offered a variety of transaction options to suit my needs.					

2) Ease of Access to Microcredit

Statements	1	2	3	4	5
The availability of microcredit options meets my needs.					
Microcredit institutions provide adequate support and guidance.					
The interest rates for microcredit are reasonable.					
I find it easy to repay microcredit loans.					

3) Economic wellbeing

Statements	1	2	3	4	5
My economic situation has improved since utilizing microcredit.					
Microcredit has helped me manage financial challenges more effectively.					
I feel more financially secure as a result of microcredit assistance.					
Microcredit has enabled me to pursue opportunities for economic growth.					

4) Small-Businesses Generation

Statements	1	2	3	4	5
I have witnessed an increase in entrepreneurial activities due to microcredit support.					
Microcredit has provided opportunities for individuals to start their own businesses.					
Small businesses supported by microcredit have contributed to local economic development.					
Microcredit has empowered individuals to become self-employed and create job opportunities.					

5) Capacity Building and Financial Literacy

Statements	1	2	3	4	5
I feel more confident in managing my finances as a result of participating in microcredit programs.					
Microcredit institutions offer resources and support for enhancing financial literacy among borrowers.					
I have gained valuable knowledge about budgeting and saving through my involvement in microcredit.					
Microcredit initiatives have helped me develop the skills necessary for running a successful business.					

6) Poverty Eradication

Statements	1	2	3	4	5
I have observed an improvement in living standards among microcredit beneficiaries.					
Microcredit initiatives have helped individuals break the cycle of poverty.					
Poverty levels have decreased as a result of microcredit programs in my area.					
Microcredit has provided opportunities for marginalized populations to improve their economic status.					

3.7 Data Collection Procedures

This study used a self-designed questionnaire to address FinTech in microcredit and poverty. The six-segment survey was sent to FinTech platform users. All areas had targets for simplicity of application, flexibility of repayment, customer service, microcredit accessibility, economic well-being, small company development, capacity building, and

financial literacy. Quantitative analysis and email, SMS, and mobile data collecting were used. This strategy increased coverage, which was especially useful for responders in underserved or distant regions, whom microcredit programs targeted. (Manstein et al., 2023).

This work utilized helpful examining to choose respondents in such a way that fair those who have coordinate involvement with FinTech microcredit stages were allowed to take part within the study Weyant, (2022), indicates that helpful inspecting could be a valuable strategy in ponders that depend on characterized criteria or particular characteristics to abdicate pertinent discoveries. The overview looked for reactions from 300 members, since the test estimate was based on prior thinks about that hypothesized that such a number may ensure sufficient factual control without overextending the coordination of data collection (Saunders, M., Lewis, P., & Thornhill, 2023). he looking over gather had two weeks to reply the study, and intermittent updates were sent to highlight the chance. Within the survey, a Likert scale extending from 1 (Emphatically Disagree) to 5 (Emphatically Concur) was utilized; thus, the ponder overseen to quantitatively look at the perceptions and encounters of the investigate factors. Things within the study were subjected to testing by a little test of 20 members to assess clarity, significance, and reliability. Agreeing to the input from the pilot test, the words and structure of specific questions changed marginally. In understanding with recognized best hones for study plan, this took put to extend the legitimacy (DeVellis, 2016). The ultimate information was compiled, coded, and analyzed through SPSS computer program, with clear and inferential factual strategies executing to explore the relationships existing among the factors. Agreeing to the Cronbach's alpha score of 0.85 in the pilot test, the comes about appeared a tall inside consistency reflecting the unwavering quality of the overview

instrument (Tavakol & Dennick, 2011). This handle adds up to confirm that the collected information was solid and able to meet the targets of the inquiry.

3.8 Data Analysis

This study examined how FinTech in microcredit reduces poverty using descriptive and inferential statistics. SPSS 26, a strong statistical program that supports a variety of statistical operations, was employed for this statistical study (Pallant, 2011). Descriptive statistics, frequency-percentage analysis, reliability statistics, and inferential statistics like ordinal regression and Spearman correlation were used to analyse the data and evaluate our hypotheses.

Descriptive Statistics

Descriptive statistical methods summarised and explained data before analysis. All descriptive statistics used-mean, standard deviation, and standard error-were pertinent to the central trends and variability among the sample dataset (Field, 2013). The mean showed the average value of the variables, letting us understand how respondents saw FinTech in microcredit. The analysis used standard deviation (SD) to derive a measurement of how the data points dispersed from the mean. This demonstrates the degree to which responses are either consistent or variable (Tabachnick et al., 2018). A standard error of the mean (SE) has been determined to analyze the precision whereby the sample mean represents the population mean, which allows for evaluating the credibility of the data. (Ingleby, 2012).

Frequency-Percentage Analysis

Through the frequency-percentage analysis, information on the distribution of categorical variables in the dataset has been obtained. This method is excellent in understanding the frequency at which certain responses or characteristics occurred within the sample population, both as raw counts and percentages (Creswell, 2003). The current study applied frequency-percentage analysis to demographic data, including age, gender,

education level, and employment status; it also looked at specific responses with regard to the adoption of FinTech in microcredit. This helped to identify the patterns and trends observed in that data and provided a valuable context for the later inferential analyses (Taylor et al., 2010).

Reliability Statistics

The survey questionnaire used in this study as the primary data collection tool had its internal consistency tested using reliability analysis. Because Cronbach's alpha is frequently used to validate the degree to which items on a certain scale interrelate and are consistently measured underlying constructs, it was computed (Tavakol & Dennick, 2011). Internal consistency can be said to be guaranteed if the Cronbach's alpha is 0.70 or more (Hundleby & Nunnally, 1968). For this study, Cronbach's alpha for each of the main scales from the perceptions of the adoption of FinTech, effectiveness of microcredits, and outcomes of poverty eradication were computed. Based on reliability data, it was determined that every scale utilised in the survey was dependable, allowing for additional statistical analysis to be conducted.

Inferential Statistics

Ordinal Regression

Ordinal regression analysis was used to analyse the connection between the independent variables and the dependent variable in this study. When the dependent variable is ordinal—that is, measures categories with a meaningful order but inconsistent intervals between the categories—ordinal regression can be used (Agresti, 2012). Ordinal regression can best fit in the current study as it helped determine how FinTech adoption influenced the perceived effectiveness of microcredit in alleviating poverty. The aforementioned log-likelihood and pseudo-R^2 statistics were utilized in the assessment of

fit for the model. Chi-square test was employed for statistical validation of the predictors (Field, 2013).

Spearman Correlation

Utilising Spearman's rank-order correlation coefficient, the direction and intensity of relationships between continuous and ordinal data were investigated. Spearman correlation is non-parametric and appropriate for ordinal or non-normally distributed data, in contrast to Pearson's correlation, which is based on linear correlations and regularly distributed data. (Hauke & Kossowski, 2011). This method was chosen to assess the correlations between variables such as FinTech usage frequency, access to microcredit, and poverty reduction indicators. The correlation coefficients (denoted as "ρ") indicated the strength of these relationships, with values ranging from -1 (perfect negative correlation) to +1 (perfect positive correlation). In this study, Spearman correlation coefficients were interpreted alongside significance levels (p-values) to identify meaningful relationships between the variables (Saunders, M., Lewis, P., & Thornhill, 2023).

This offered a solid foundation for the study's data analysis and hypothesis testing. While descriptive statistics provided a concise overview of the primary patterns and variability within the dataset, reliability statistics made sure that the survey instrument's internal consistency was verified, adding validity to the results. with frequency-percentage analysis offering insight into the distribution of categorical variables. This study, through inferential statistics such as ordinal regression and Spearman correlation, identified the existence of significant relationships between FinTech adoption, access to microcredit, and poverty reduction, which really contributed to a deeper understanding of the role of FinTech in microcredit and eradication.

3.9 Limitations

This study applies a powerful descriptive research approach combined with a quantitative design to analyse the link between fintech, microcredit, and reducing poverty, but it is necessary to recognise several methodological constraints.

At the outset, the use of self-structured questionnaires on online social media may lead to sampling bias. Those recruited through these platforms are probably technologically literate and have internet and social media access, which may exclude people from low socioeconomic backgrounds who might be the most affected by poverty and are absent from fintech services. The outcome may provide an unrepresentative sample, limiting the findings' application to groups without internet access or digital tool experience. Because of social desirability or question meaning confusion, survey responses may be biassed in data reporting, impacting accuracy and fidelity. For instance, attendees may downplay their financial issues or overstate their fintech microcredit knowledge. In online conversations without elaboration, misreading queries may lead to data errors.

Descriptive statistics and inferential techniques such as regression and correlation, while appropriate for recognising patterns and connexions, may not completely reflect the complexity of the relationships involving fintech, microcredit, and poverty. These approaches yield understanding of correlations, but they do not establish causality, which requires that any associations should be interpreted with caution. In addition, the single timepoint data collection in the study design limits the capacity to observe changes over time or to understand the enduring effects of fintech adoption on reducing poverty.

Although SPSS is such a robust tool for statistical analysis, sheer reliance on the use of the tools of quantitative methods may often prove to be blind to such keen qualitative insights, such as lived experiences of those accessing microcredit through such fintech-

based platforms. A mixed-methods approach would have elicited more exquisite and comprehensive data by blurring quantitative data with qualitative perspectives.

Finally, with a relatively modest sample size of 300 participants, underpowering is a possibility and may not be able to zero in on some statistically significant relationships within the data. Despite the present study's attempt at generalization of findings, the small sample size and perhaps biases in sampling and collection of data further ensure that the credibility of the drawn conclusions is at its minimum compromise.

3.10 Conclusion

This research employs a quantitative design and descriptive approach to determine how FinTech can enhance the eradication of poverty as well as the advanced use of microcredit to aid the growth of the economy. Quantitative analysis is applied in it to examine the capacity of FinTech instruments in assessing microcredit and the impact these instruments impose on the results emerging in the economy. The goal of this research is to offer financial institutions and policy makers useful suggestions for utilising FinTech to help them accomplish the goals of sustainable development and financial inclusion.

CHAPTER IV:

RESULTS

4.1 Reliability

Table 4.1: Reliability Statistics

Cronbach's Alpha	N of Items
.953	32

Table 4.1 displays the 32 objects' Cronbach's Alpha, which is 0.953, indicating good internal consistency. A Cronbach's Alpha value above 0.9 indicates excellent item agreement, which is suggestive of a coherent construct.

4.2 Frequency Table

Table 4.2: Demographic

		Frequency	Percent
Gender	Male	186	62
	Female	105	35
	Non-binary	4	1.3
	Prefer not to say	5	1.7
Age	18-24 Years	149	49.7
	25-34 Years	94	31.3
	35-44 Years	43	14.3
	45-54 Years	10	3.3
	55-64 Years	3	1
	65 Years or above	1	0.3
Education Level	High school	31	10.3
	High secondary school	23	7.7

	Bachelor's degree	157	52.3
	Master's degree	79	26.3
	PhD	9	3
	Other	1	0.3
Employment Status	Employed full-time	156	52
	Employed part-time	62	20.7
	Govt. employed	23	7.7
	Self-employed	31	10.3
	Unemployed	7	2.3
	Student	14	4.7
	Other	7	2.3
Household Income	Less than 20,000	164	54.7
	20,000 - 50,000	49	16.3
	50,001 - 80,000	39	13
	80,001 - 100,000	21	7
	100,001 - 150,000	6	2
	150,000 or more	21	7
Geographic Location	Urban	182	60.7
	Suburban	71	23.7
	Rural	47	15.7
Marital Status	Single	207	69
	Married	61	20.3
	Domestic Partnership	19	6.3
	Divorced	11	3.7

	Widowed	2	0.7

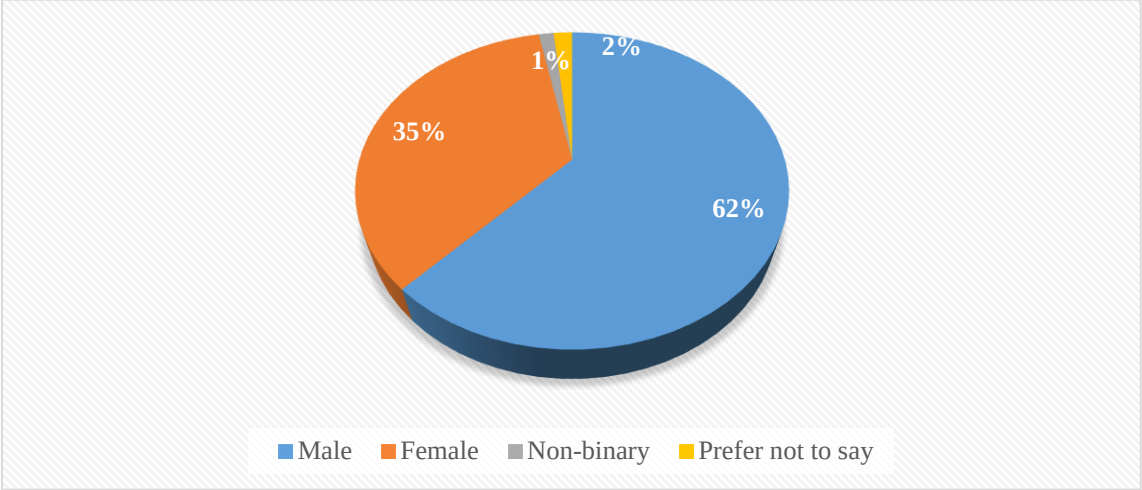


Figure 4.1: Gender

The above figure 4.1 shows a gender distribution the study respondents, where males constitute the majority at 62%, followed by females at 35%. A small percentage of respondents identify as non-binary (1.3%), while 1.7% prefer not to disclose their gender. This indicates a significantly higher male representation compared to other gender groups.

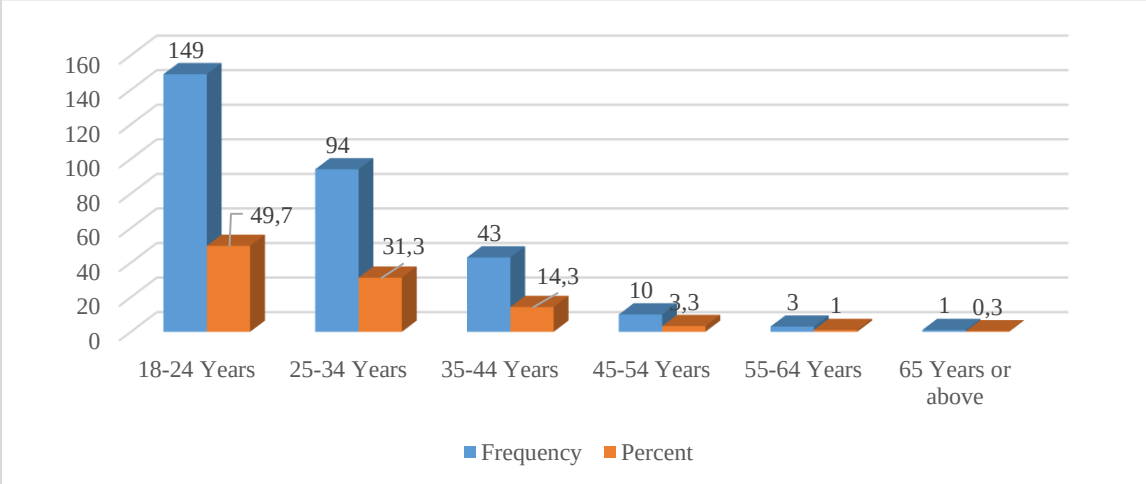


Figure 4.2: Age

The above figure 4.2 shows the data of respondents based on their age. This data exposes that the majority of respondents (49.7%) were between 18-24 years old, while 31.3% fall

in the 25-34 age range. Smaller percentages were seen in the 35-44 group (14.3%), 45-54 group (3.3%), with very few in the 55-64 (1%) and 65+ (0.3%) categories.

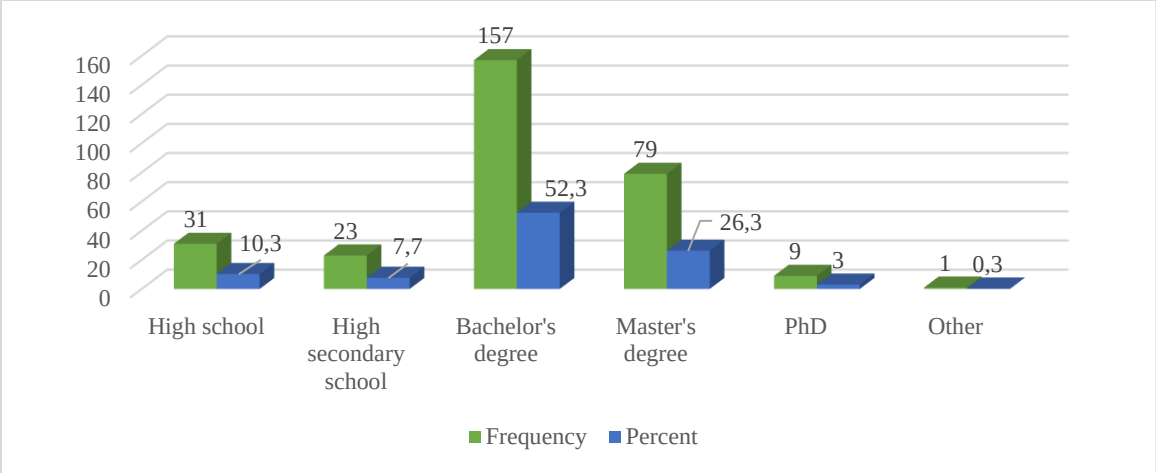


Figure 4.3: Education Level

The above figure 4.3 shows the distribution based on Education level, which shows that 52.3% of respondents have a bachelor's degree, followed by 26.3% with a master's degree. Those with high school (10.3%) or high secondary school (7.7%) education make up smaller portions, while 3% hold a PhD, and 0.3% fall into the "other" category.

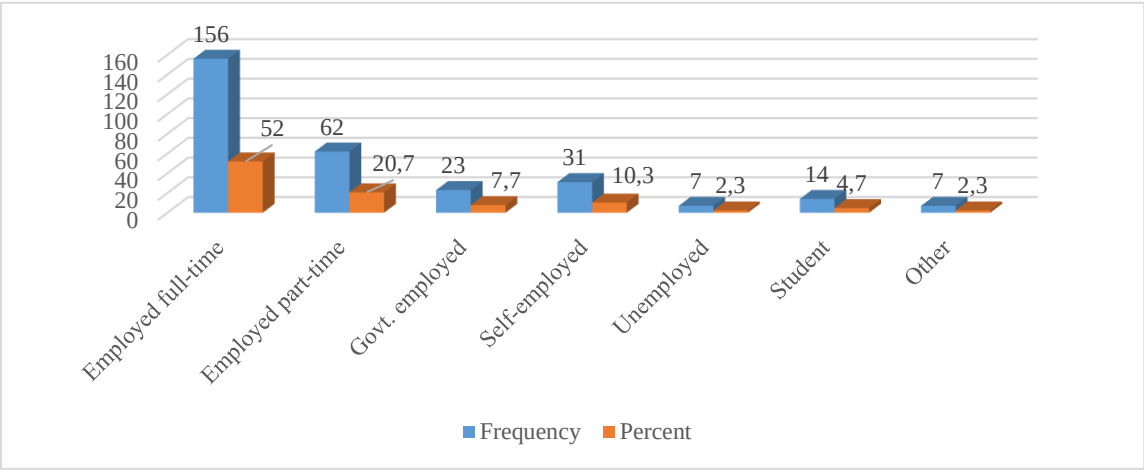


Figure 4.4: Employment Status

The above figure 4.4 represents a distribution of employment status among the study respondents, which shows that most respondents (52%) are employed full-time, while

20.7% work part-time. Self-employed individuals make up 10.3%, and 7.7% are employed by the government. Smaller portions include students (4.7%), unemployed (2.3%), and those in the "other" category (2.3%).

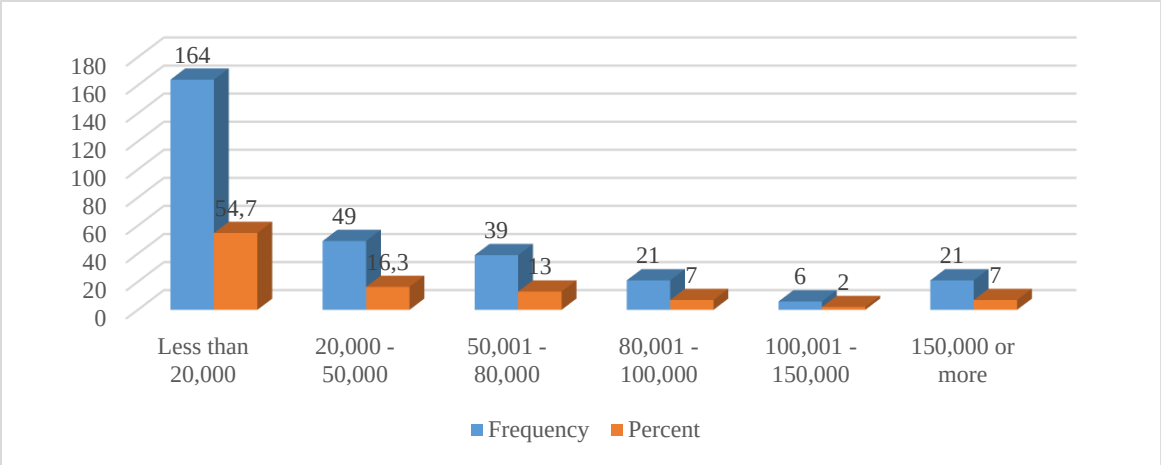


Figure 4.5: Household Income

The household income data represented in above figure 4.5 exposes that the majority of respondents (54.7%) earn less than ₹20,000 monthly. A smaller portion (16.3%) falls in the ₹20,000-₹50,000 range, with 13% earning between ₹50,001-₹80,000. Income levels of ₹80,001-₹100,000 and ₹150,000 or more are reported by 7% each, while 2% earn between ₹100,001-₹150,000.

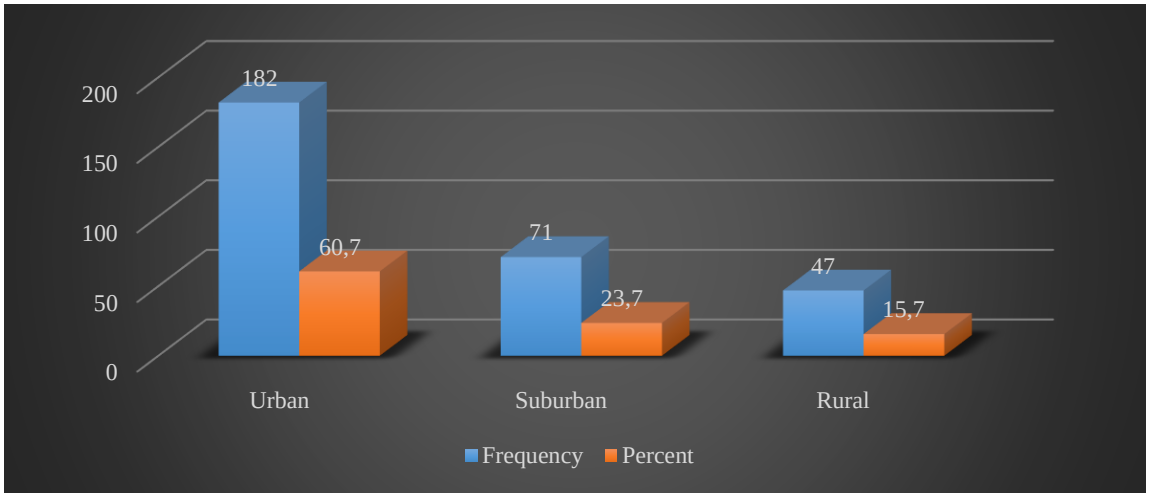


Figure 4.6: Residential Location

The above figure 4.6 shows the distribution based on geographic location, this data shows that the majority of respondents (60.7%) reside in urban areas, while 23.7% live in suburban regions, and 15.7% are from rural areas. This shows a higher concentration of participants from urban environments than from suburban and rural locations.

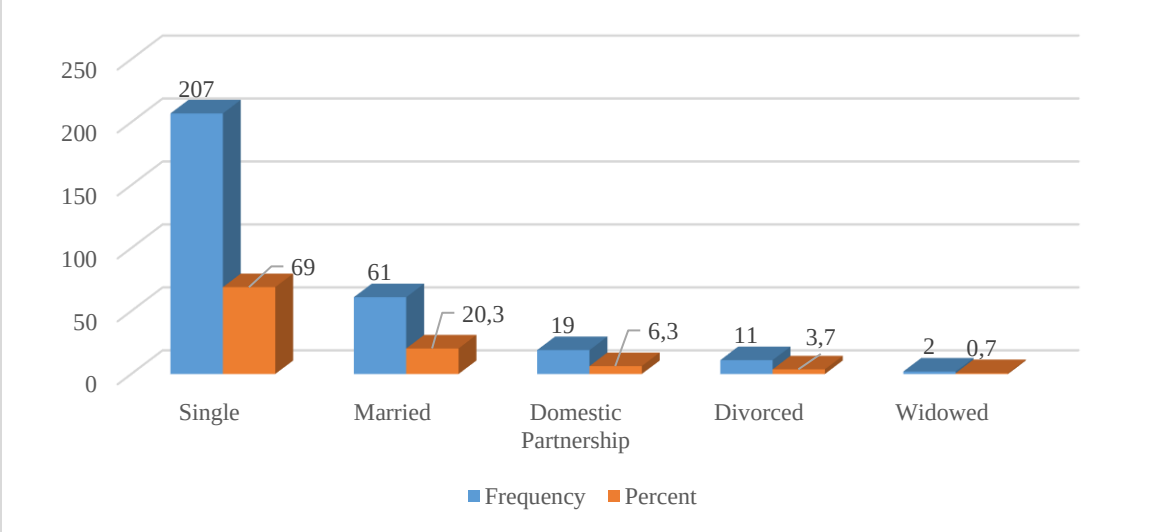


Figure 4.7: Marital Status

The marital status data in above figure 4.7 shows that most respondents (69%) are single, while 20.3% are married. Those in live-in relationships make up 6.3%, followed by 3.7% who are divorced, and 0.7% who are widowed. Single individuals dominate the sample.

4.3 Fintech in Microcredit

Ease of Application Process

Table 4.3: Ease of Application Process

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The fintech platform provided clear instructions.	Frequency	30	59	105	82	24
	Percent	10	19.7	35	27.3	8

I encountered technical difficulties during the application process.	Frequency	2	44	90	116	48
	Percent	0.7	14.7	30	38.7	16
The fintech platform allowed easy uploading of required documents.	Frequency	4	35	103	110	48
	Percent	1.3	11.7	34.3	36.7	16

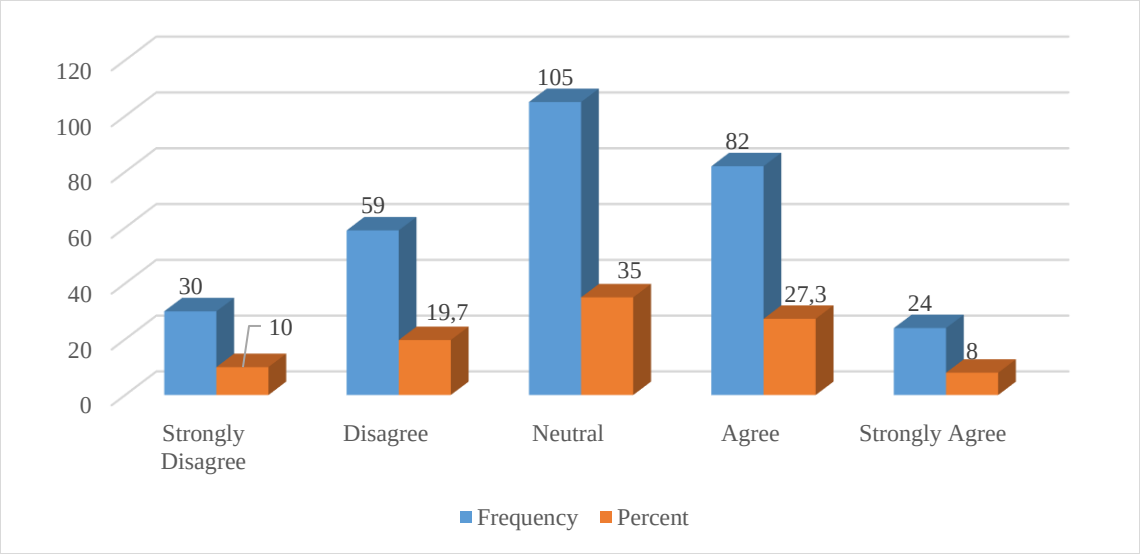


Figure 4.8: The fintech platform provided clear instructions.

The above figure 4.8 shows the respondents based on the statement that the fintech platform provided clear instructions. According to the data show that 35% of respondents were neutral about the clarity of instructions on the fintech platform. However, 27.3% agreed, and only 8% strongly agreed. On the negative side, 19.7% disagreed and 10% strongly disagreed. Overall, responses show mixed satisfaction, with a significant portion neutral or somewhat dissatisfied.

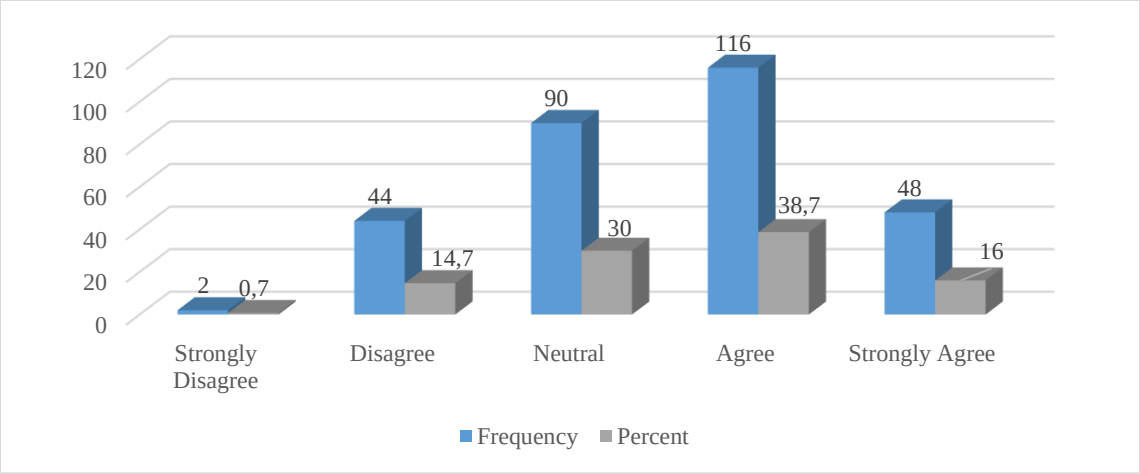


Figure 4.9: I encountered technical difficulties during the application process.

The above figure 4.9 shows the respondents based on the statement that they encountered technical difficulties during the application process. According to this figure, the data indicate that 38.7% of respondents agreed they encountered technical difficulties during the application process, while 16% strongly agreed. Meanwhile, 30% remained neutral, 14.7% disagreed, and only 0.7% strongly disagreed. This suggests that a significant portion experienced technical issues, though a sizable group remained neutral.

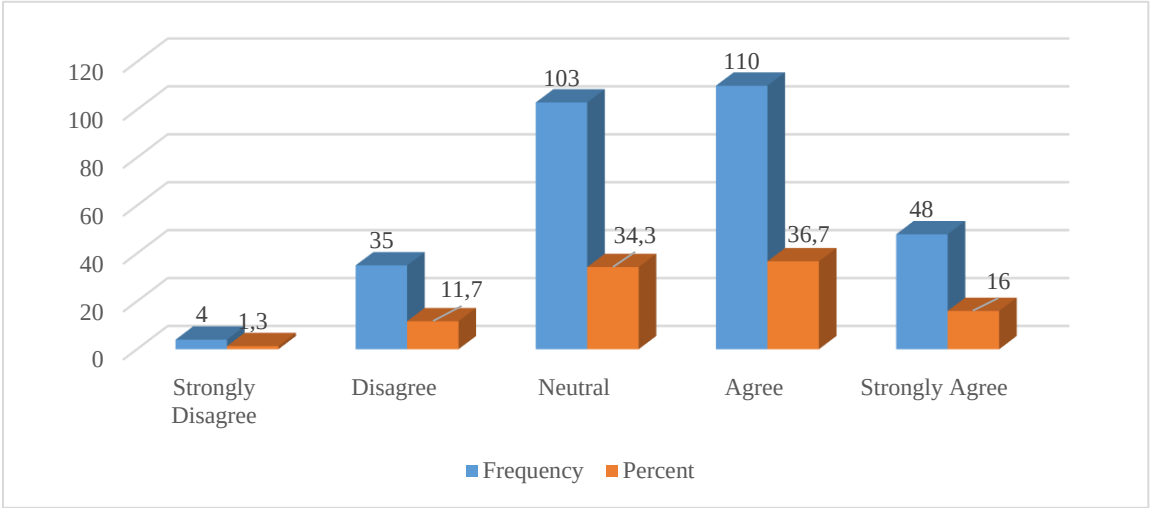


Figure 4.10: The fintech platform allowed easy uploading of required documents.

The above figure 4.10 shows the findings of the study based on a statement that the fintech platform allowed easy uploading of required documents. In this, data shows that 36.7% of

respondents agreed that the fintech platform allowed easy uploading of required documents, and 16% strongly agreed. Meanwhile, 34.3% remained neutral, 11.7% disagreed, and only 1.3% strongly disagreed. Overall, the responses are generally positive, with most participants finding the document upload process easy, though a significant portion remains neutral.

Flexibility in Repayment Options

Table 4.4: Flexibility in Repayment Options

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I found it easy to customize my repayment plan according to my financial situation.	Frequency	2	35	91	112	60
	Percent	0.7	11.7	30.3	37.3	20
The fintech platform provides options for adjusting repayment amounts.	Frequency	10	39	103	97	51
	Percent	3.3	13	34.3	32.3	17
The fintech platform offers grace periods or flexibility in case of financial emergencies.	Frequency	4	37	97	109	53
	Percent	1.3	12.3	32.3	36.3	17.7

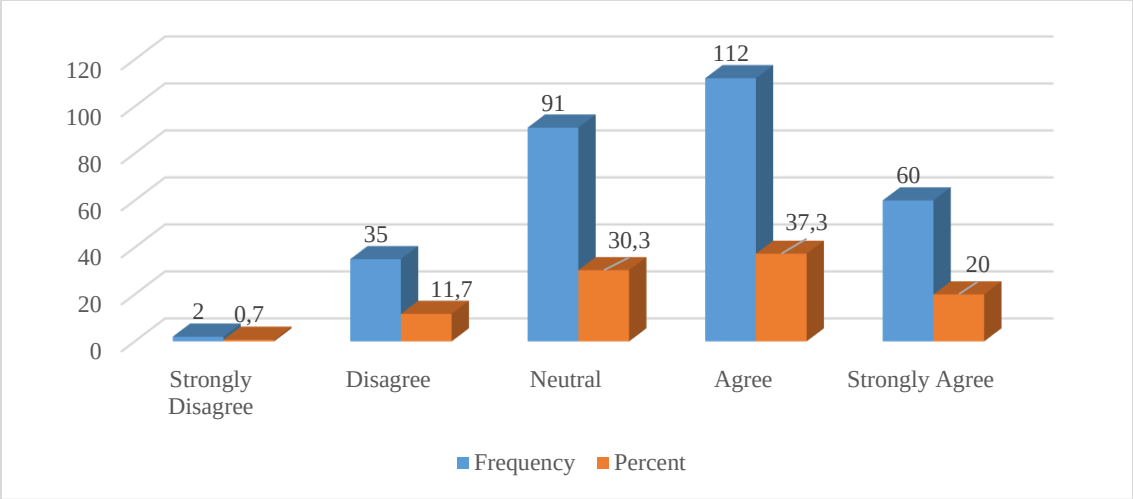


Figure 4.11: I found it easy to customize my repayment plan according to my financial situation.

The above figure 4.11 shows the information based on the ease of customizing the respondents' repayment plans according to their financial situation. As per this figure, 37.3% of respondents agreed it was easy to customize their repayment plan, with 20% strongly agreeing. Meanwhile, 30.3% continued neutral, 11.7% disagreed, and only 0.7% strongly disagreed. Overall, most users had a positive experience with repayment customization, though a notable portion remained neutral.

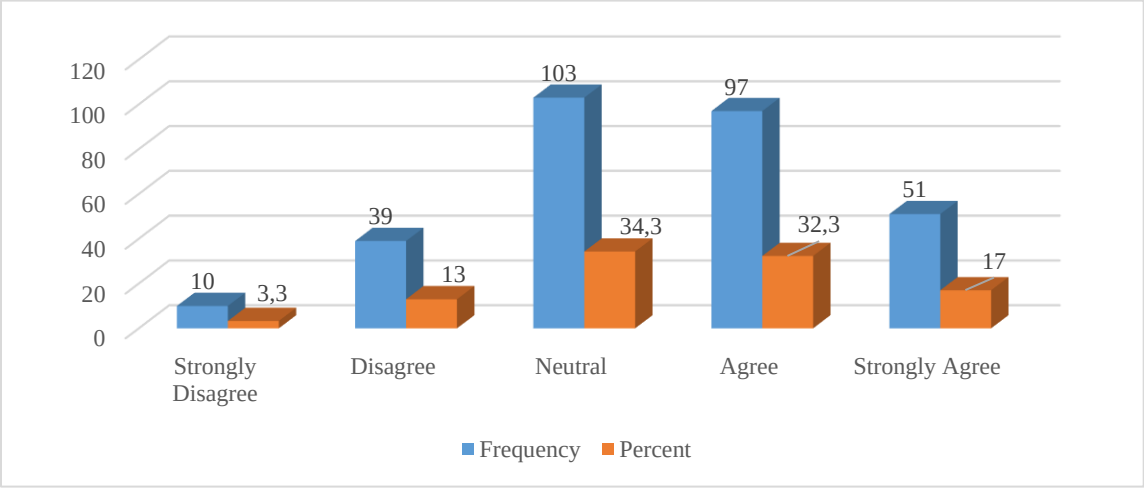


Figure 4.12: The fintech platform provides options for adjusting repayment amounts.

The above figure 4.12 shows the survey results on the statement which is the fintech platform provides options for adjusting repayment amounts. According to this, the majority of respondent's data shows that 32.3% of respondents agreed that the fintech platform provides options for adjusting repayment amounts, and 17% strongly agreed. However, 34.3% remained neutral, 13% disagreed, and 3.3% strongly disagreed. While many users found the platform flexible with repayment options, a significant portion either felt neutral or expressed dissatisfaction, indicating room for improvement.

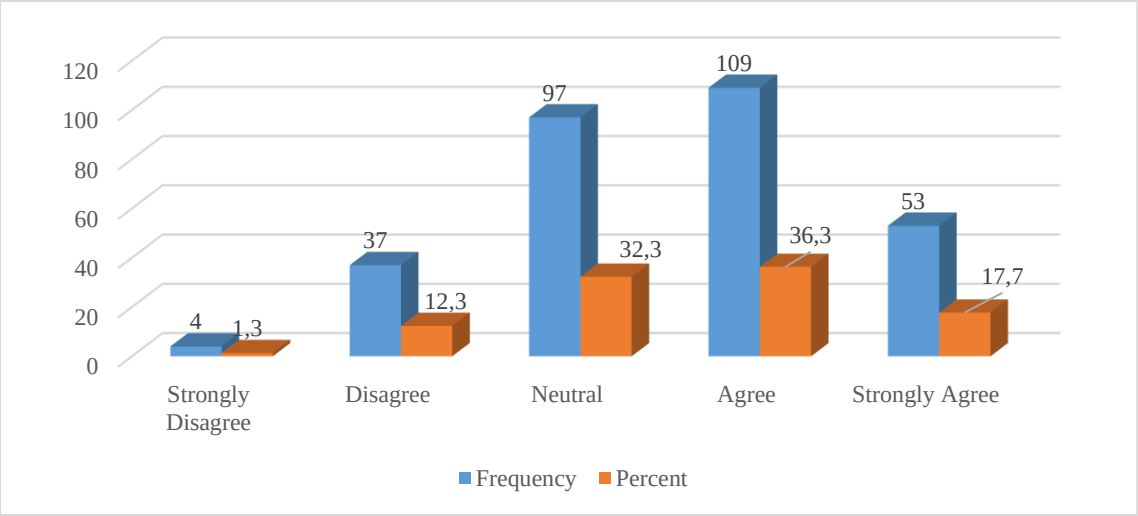


Figure 4.13: The fintech platform offers grace periods or flexibility in case of financial emergencies.

The above figure 4.13 shows the findings that 36.3% of respondents agreed that the fintech platform offers grace periods or flexibility in case of financial emergencies, while 17.7% strongly agreed. A significant 32.3% remained neutral, 12.3% disagreed, and 1.3% strongly disagreed. While many users recognized the platform's flexibility during emergencies, a notable portion remained neutral, suggesting that some users may be uncertain about the platform's support during financial hardships.

Customer Service Quality

Table 4.5: Customer Service Quality

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The customer service representatives were helpful and knowledgeable.	Frequency	6	36	99	109	50
	Percent	2	12	33	36.3	16.7
The communication channels (e.g., email, chat) were easily accessible.	Frequency	5	45	94	100	56
	Percent	1.7	15	31.3	33.3	18.7
I felt valued and respected as a customer when interacting with customer service.	Frequency	11	44	91	110	44
	Percent	3.7	14.7	30.3	36.7	14.7

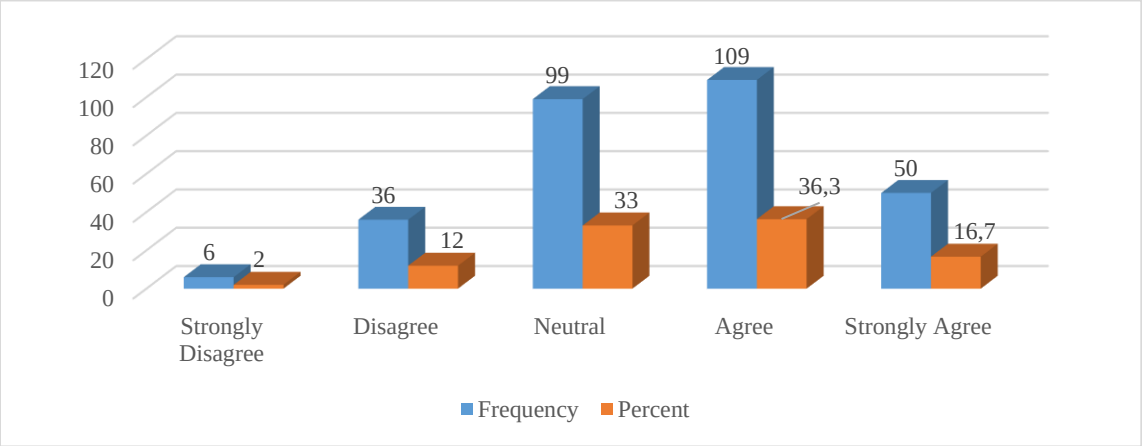


Figure 4.14: The customer service representatives were helpful and knowledgeable.

The above Figure 4.14 displays the accused's comments on the statement that the customer service staff were competent and helpful. An overwhelming majority of respondents (36.3%) found the customer service staff to be both helpful and informed, with 16.7 percent

going so far as to insist on it. However, 33% remained neutral, and 12% disagreed, with 2% strongly disagreeing. Overall, while a majority found customer service satisfactory, a substantial portion remained neutral or dissatisfied, indicating potential areas for improvement in service quality and responsiveness.

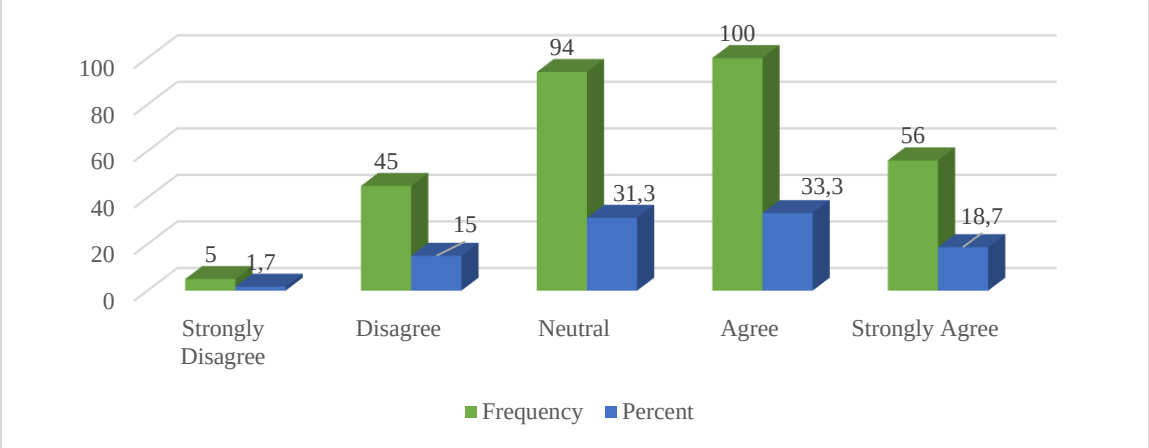


Figure 4.15: The communication channels (e.g., email, chat) were easily accessible.

The above figure 4.15 shows the survey results on the statement which is the communication channels were easily accessible. In this, data shows that 33.3% of respondents agreed that communication channels (e.g., email, chat) were easily accessible, while 18.7% strongly agreed. A notable 31.3% remained neutral, with 15% disagreeing and 1.7% strongly disagreeing.

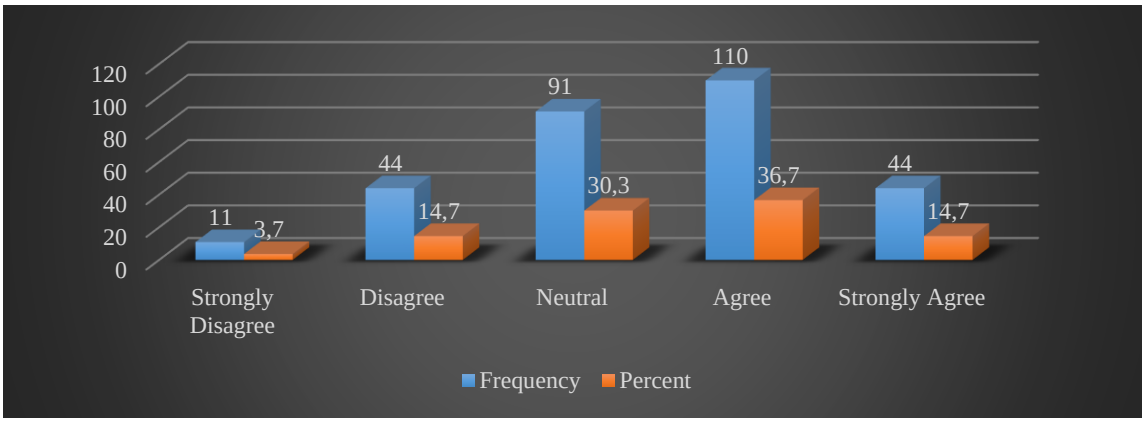


Figure 4.16: I felt valued and respected as a customer when interacting with customer service.

The above figure 4.16 shows the finding that 36.7% of respondents felt valued and respected as customers during interactions with customer service, while 14.7% strongly agreed. However, 30.3% remained neutral, and 14.7% disagreed, with 3.7% strongly disagreeing. While many customers had positive experiences, the notable neutral and dissatisfied responses specify that there is room for improvement in customer engagement and respect during service interactions.

Convenience of Transaction

Table 4.6: Convenience of Transaction

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The fintech platform provided convenient methods for conducting transactions (e.g., payments, transfers).	Frequency	6	29	102	110	53
	Percent	2	9.7	34	36.7	17.7
I found it easy to navigate through the transaction processes on the fintech platform.	Frequency	2	39	101	114	44
	Percent	0.7	13	33.7	38	14.7
The fintech platform offered a variety of transaction options to suit my needs.	Frequency	3	34	101	102	60
	Percent	1	11.3	33.7	34	20

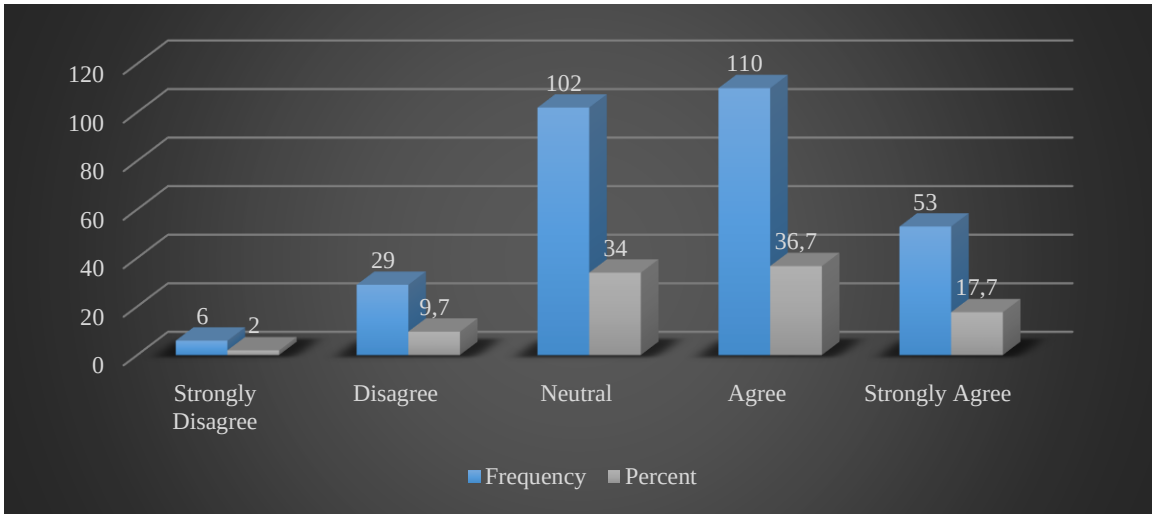


Figure 4.17: The fintech platform provided convenient methods for conducting transactions (e.g., payments, transfers).

The above figure 4.17 shows the findings on the statement that the fintech platform provided convenient methods for conducting transactions. According to this, shows that 36.7% of respondents agreed that the fintech platform provided convenient methods for conducting transactions, while 17.7% strongly agreed. A significant 34% remained neutral, with 9.7% disagreeing and 2% strongly disagreeing.

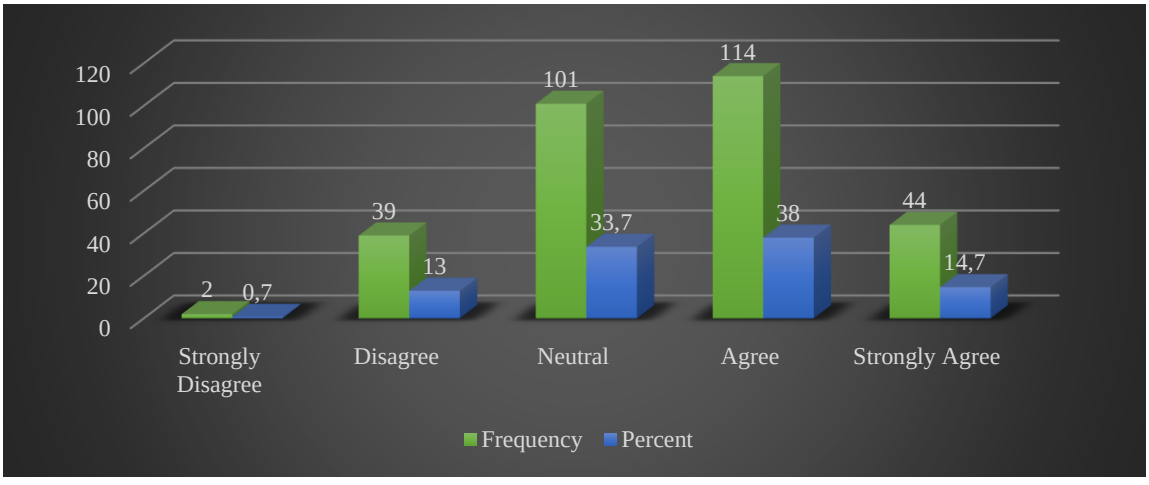


Figure 4.18: I found it easy to navigate through the transaction processes on the fintech platform.

The above figure 4.18 shows the findings of the survey based on statement the found it easy to navigate through the transaction processes on the fintech platform. As per this data,

38% of respondents agreed they found it easy to navigate through the transaction processes on the FinTech platform, with 14.7% strongly agreeing. Meanwhile, 33.7% remained neutral, 13% disagreed, and 0.7% strongly disagreed.

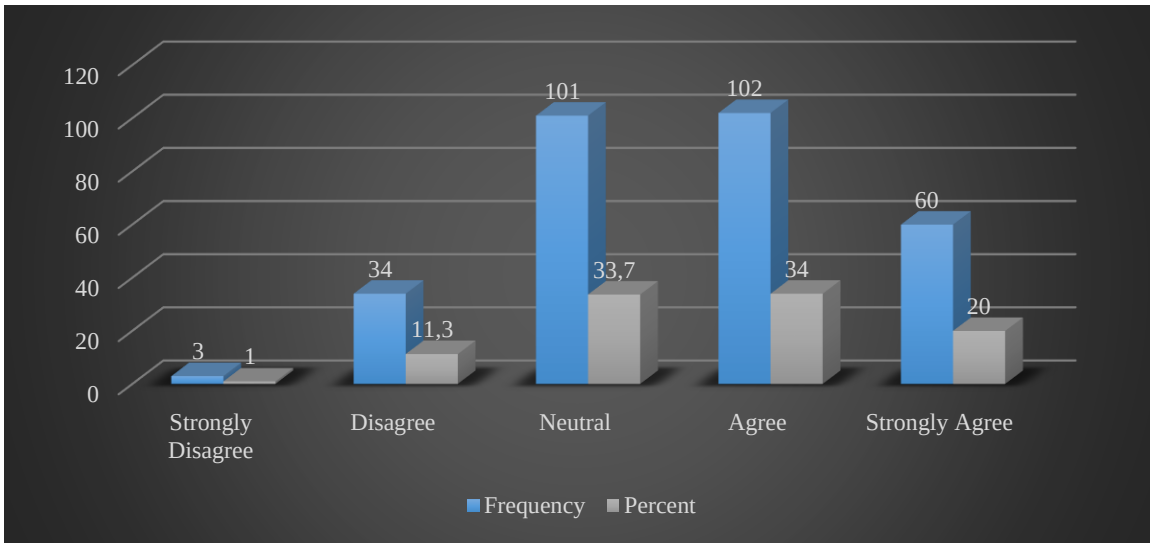


Figure 4.19: The fintech platform offered a variety of transaction options to suit my needs.

The above figure 4.19 shows the distribution based on the statement the fintech platform offered a variety of transaction options to suit their needs. According to this data, 34% of respondents agreed that the fintech platform offered a variety of transaction options to suit their needs, while 20% strongly agreed. Meanwhile, 33.7% remained neutral, 11.3% disagreed, and 1% strongly disagreed.

Ease of Access to Microcredit

Table 4.7: Ease of Access to Microcredit

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The availability of microcredit options meets my needs.	Frequency	29	53	92	95	31
	Percent	9.7	17.7	30.7	31.7	10.3

Microcredit institutions provide adequate support and guidance.	Frequency	1	37	88	112	62
	Percent	0.3	12.3	29.3	37.3	20.7
The interest rates for microcredit are reasonable.	Frequency	3	38	95	120	44
	Percent	1	12.7	31.7	40	14.7
I find it easy to repay microcredit loans.	Frequency	3	38	90	117	52
	Percent	1	12.7	30	39	17.3

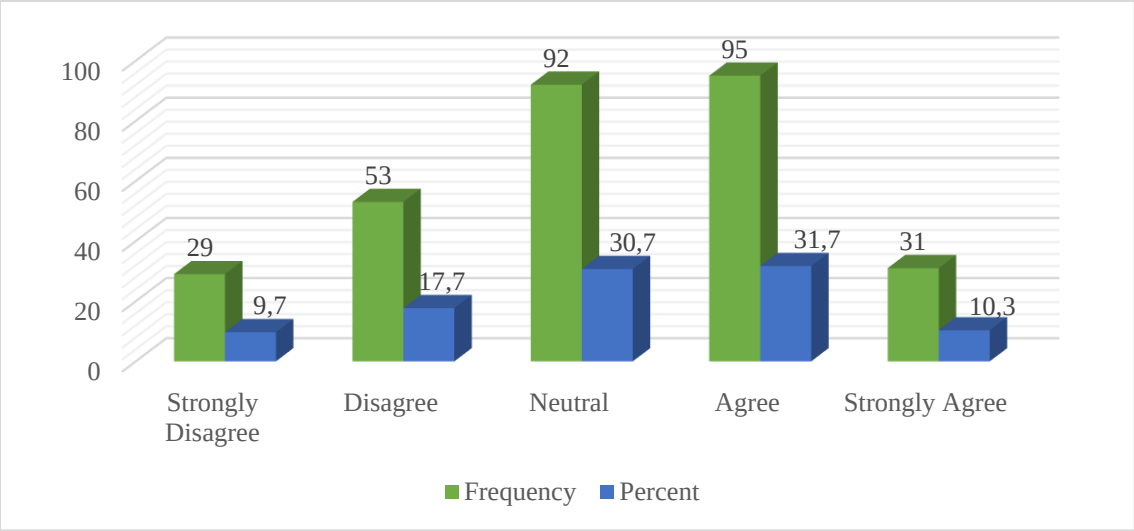


Figure 4.20: The availability of microcredit options meets my needs.

The above figure 4.20 shows the findings on this data representing that 31.7% agreed that the availability of microcredit options meets their needs, with 10.3% strongly agreeing. Conversely, 17.7% disagreed, and 9.7% strongly disagreed. Additionally, 30.7% continued neutral. While a combined 42% agreed, a notable 27.4% indicated dissatisfaction or neutrality, suggesting that the microcredit offerings could be better aligned with customer needs.

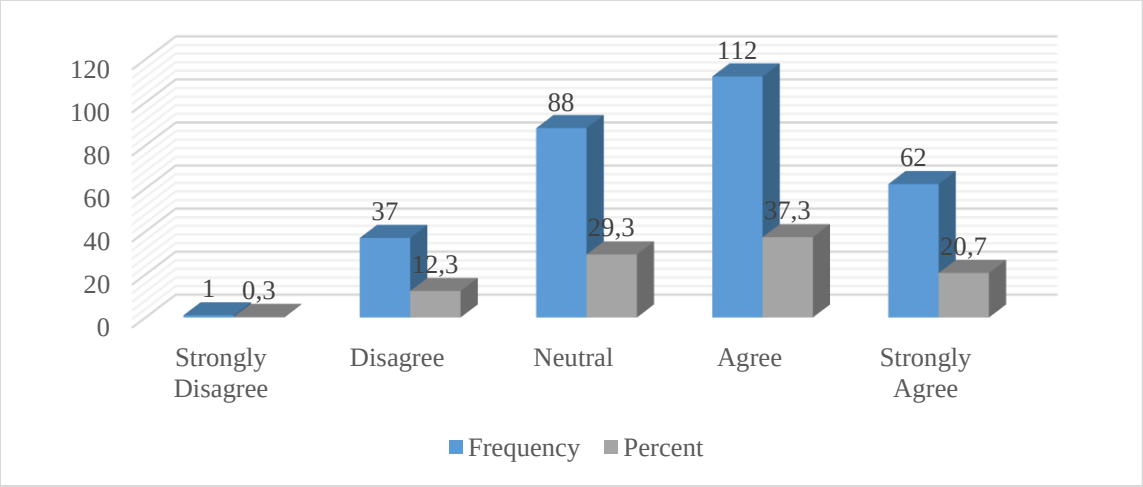


Figure 4.21: Microcredit institutions provide adequate support and guidance.

The above figure 4.21 shows the findings in the statement that 37.3% agreed that microcredit institutions provide adequate support and guidance, while 20.7% strongly agreed. In contrast, 12.3% disagreed, and only 0.3% strongly disagreed. Additionally, 29.3% remained neutral. Overall, while a significant majority express satisfaction with the support offered, the substantial neutral response suggests that some users may feel uncertain about the adequacy of guidance from these institutions.

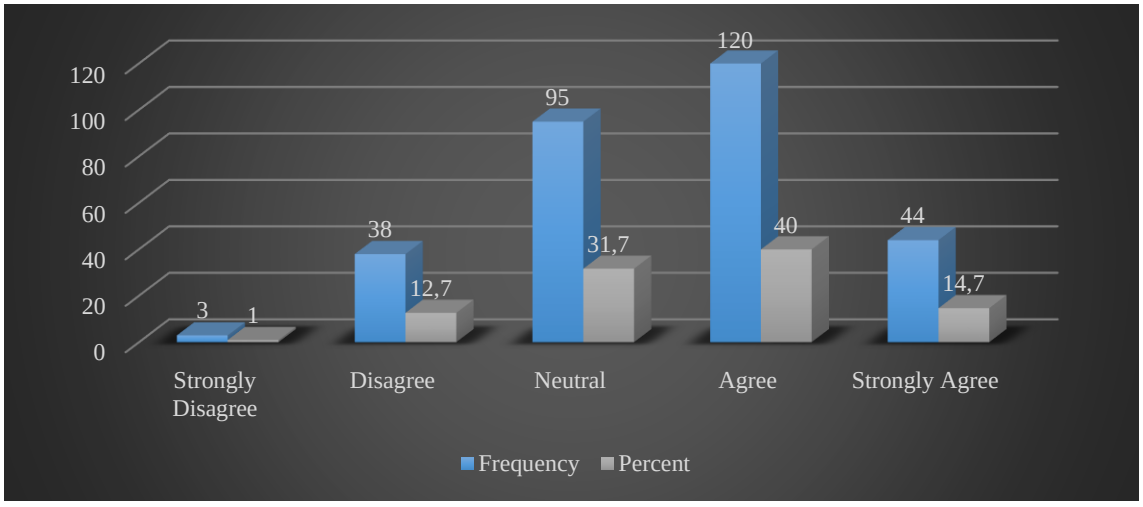


Figure 4.22: The interest rates for microcredit are reasonable.

The distribution based on the statement that microcredit interest rates are fair is shown in Figure 4.22 above. As a result, 40% thought microcredit interest rates were fair, with 14.7%

giving their enthusiastic approval. On the contrary, 1% were vehemently opposed, while 12.7% were indifferent. As a bonus, 31.7% were undecided. While a strong majority view the interest rates as reasonable, the notable neutral and dissenting responses suggest that some users may have concerns or differing perspectives on the affordability of these rates.

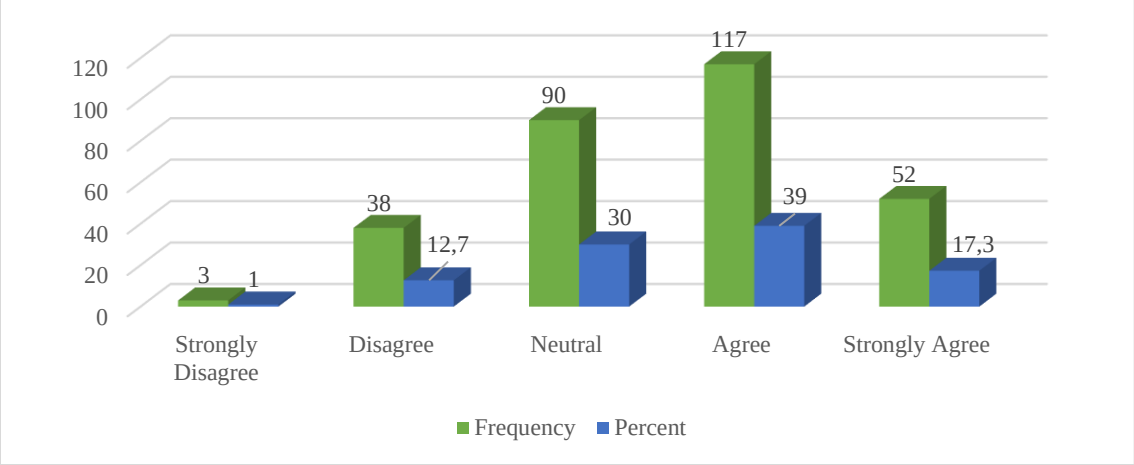


Figure 4.23: I find it easy to repay microcredit loans.

The above figure 4.23 shows the information in the survey 39% agreed that they find it easy to repay microcredit loans, while 17.3% strongly agreed. While, 12.7% disagreed, and 1% strongly disagreed. Additionally, 30% remained neutral. While a majority of respondent's express ease in repayment, the substantial neutral and negative responses indicate that some users may face challenges or uncertainties regarding the repayment process.

Economic wellbeing

Table 4.8: Economic wellbeing

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My economic situation has improved	Frequency	23	44	90	94	49
	Percent	7.7	14.7	30	31.3	16.3

since utilizing microcredit.						
Microcredit has helped me manage financial challenges more effectively.	Frequency	0	37	73	137	53
	Percent	0	12.3	24.3	45.7	17.7
I feel more financially secure as a result of microcredit assistance.	Frequency	1	32	89	120	58
	Percent	0.3	10.7	29.7	40	19.3
Microcredit has enabled me to pursue opportunities for economic growth.	Frequency	5	36	76	118	65
	Percent	1.7	12	25.3	39.3	21.7

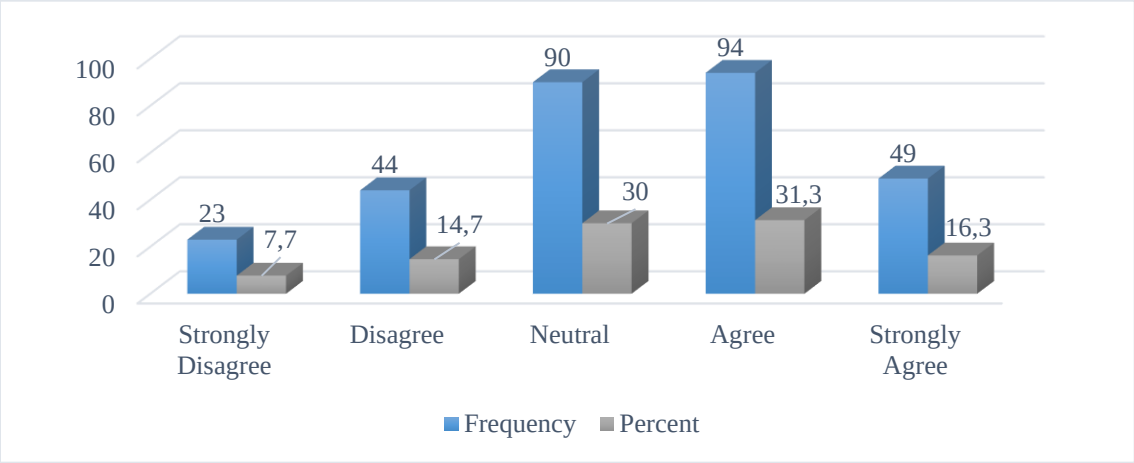


Figure 4.24: My economic situation has improved since utilizing microcredit.

The above figure 4.24 shows that 31.3% agreed that their economic situation has improved since utilizing microcredit, while 16.3% strongly agreed. Conversely, 14.7% disagreed, and 7.7% strongly disagreed. Moreover, 30% remained neutral. While a significant portion reports positive economic impacts, the notable neutral and dissenting responses suggest

that many users may not feel a clear improvement, indicating varying experiences with microcredit's effects on their finances.

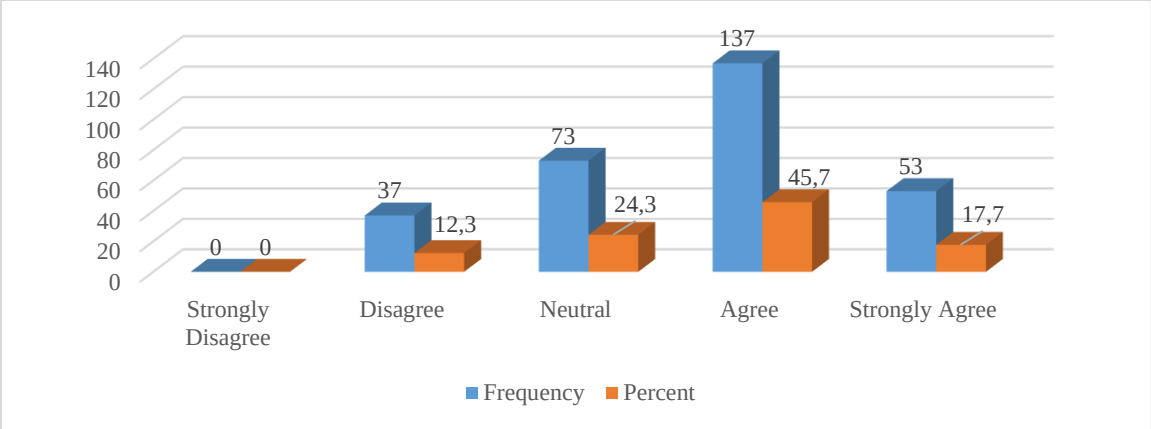


Figure 4.25: Microcredit has helped me manage financial challenges more effectively.

The above figure 4.25 shows that 45.7% agreed that microcredit has helped them manage financial challenges more effectively, with 17.7% strongly agreeing. No respondents strongly disagreed, while 12.3% disagreed, and 24.3% remained neutral. The overwhelmingly positive response indicates that many users feel microcredit plays a significant role in improving their financial management, although the neutral responses suggest some uncertainty among a portion of users.

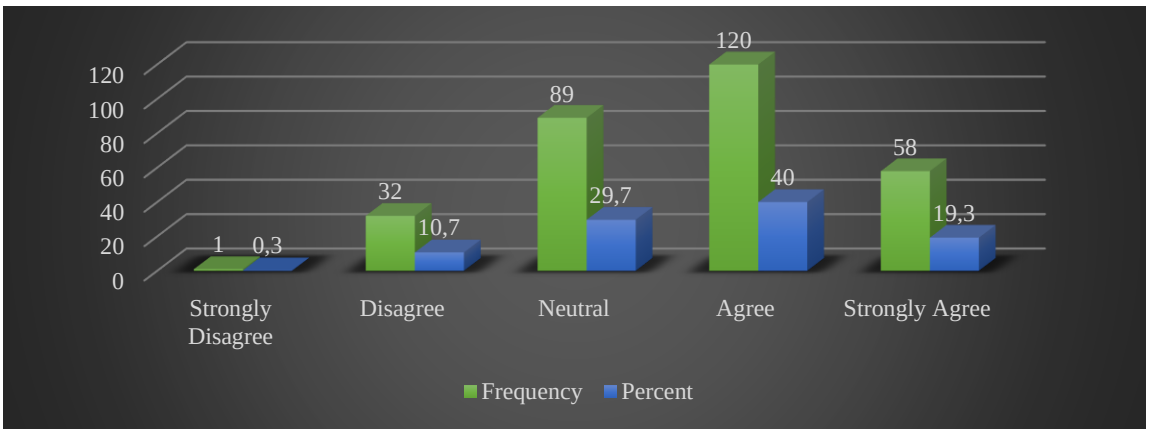


Figure 4.26: I feel more financially secure as a result of microcredit assistance.

The above figure 4.26 shows the finding that 40% agreed they feel more financially secure as a result of microcredit assistance, while 19.3% strongly agreed. Equally, 10.7%

disagreed, and 0.3% strongly disagreed. Also, 29.7% remained neutral. Overall, while a majority express increased financial security due to microcredit, the notable neutral and dissenting responses suggest that some users may still experience uncertainty regarding their financial stability.

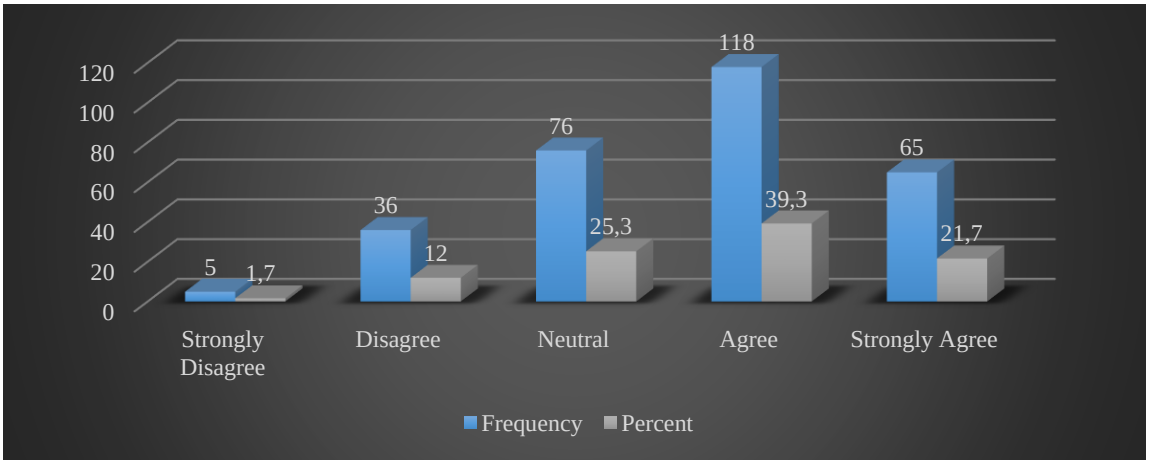


Figure 4.27: Microcredit has enabled me to pursue opportunities for economic growth.

The above figure 4.27 shows the findings of the survey 39.3% agreed that microcredit has enabled them to pursue opportunities for economic growth, while 21.7% strongly agreed. While, 12% disagreed, and 1.7% strongly disagreed, with 25.3% remaining neutral. while a significant portion acknowledges the role of microcredit in facilitating economic opportunities, the considerable neutral and negative responses suggest that some users may not fully recognize its impact on their growth.

Small-Businesses Generation

Table 4.9: Small-Businesses Generation

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I have witnessed an increase in entrepreneurial activities due to microcredit support.	Frequency	20	48	94	97	41
	Percent	6.7	16	31.3	32.3	13.7

Microcredit has provided opportunities for individuals to start their own businesses.	Frequency	6	38	72	128	56
	Percent	2	12.7	24	42.7	18.7
Small businesses supported by microcredit have contributed to local economic development.	Frequency	3	38	89	108	62
	Percent	1	12.7	29.7	36	20.7
Microcredit has empowered individuals to become self-employed and create job opportunities.	Frequency	3	29	96	113	59
	Percent	1	9.7	32	37.7	19.7

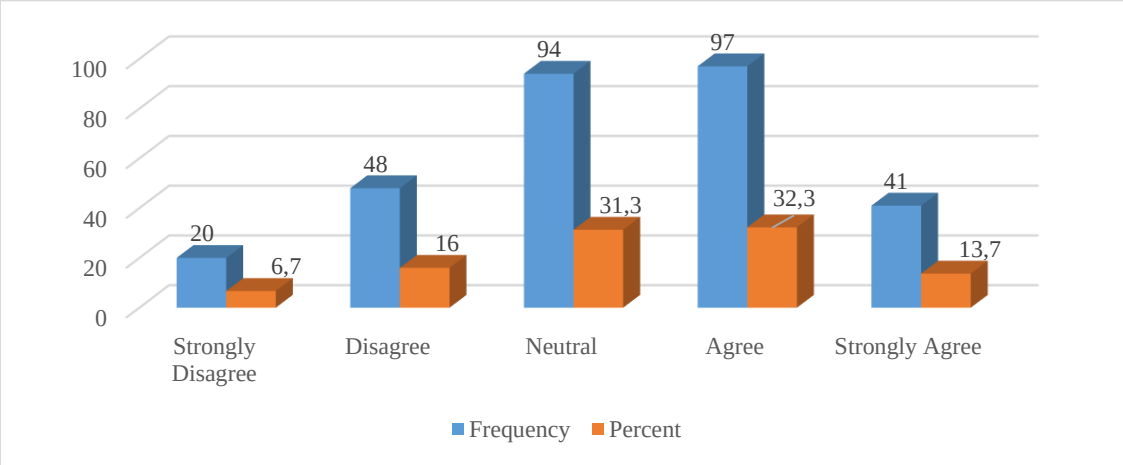


Figure 4.28: I have witnessed an increase in entrepreneurial activities due to microcredit support.

The above figure 4.28 shows that 32.3% agreed they have witnessed an increase in entrepreneurial activities due to microcredit support, with 13.7% strongly agreeing. Conversely, 16% disagreed, and 6.7% strongly disagreed, while 31.3% remained neutral. while a notable portion recognizes the positive impact of microcredit on entrepreneurship,

the significant neutral and dissenting responses suggest that awareness of these effects may vary among users.

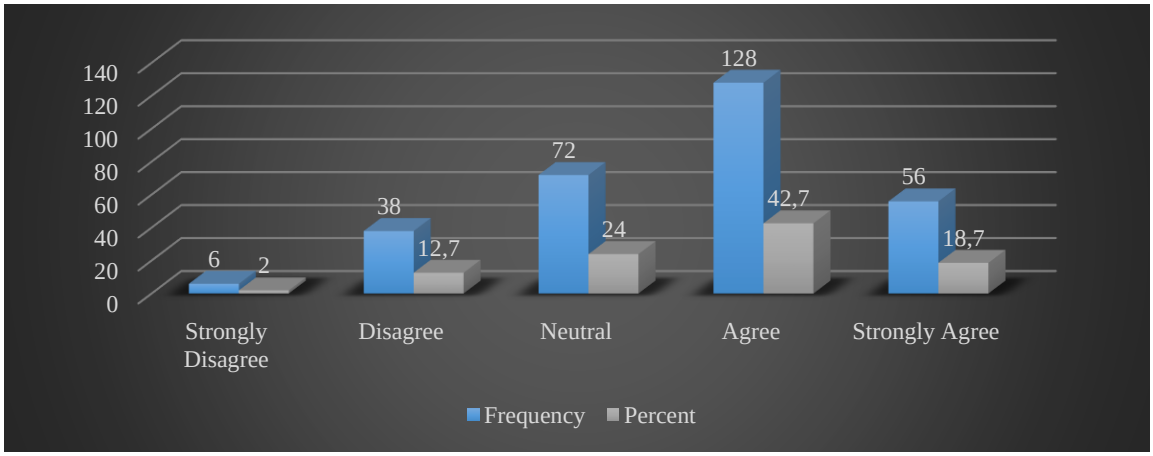


Figure 4.29: Microcredit has provided opportunities for individuals to start their own businesses.

The above figure 4.29 shows the distribution based on the statement that 42.7% agreed that microcredit has provided opportunities for those who start their businesses, while 18.7% strongly agreed. Conversely, 12.7% disagreed, and 2% strongly disagreed, with 24% remaining neutral. Overall, a significant majority recognize the positive impact of microcredit on entrepreneurship, although the substantial neutral response indicates that some users may not fully perceive these opportunities.

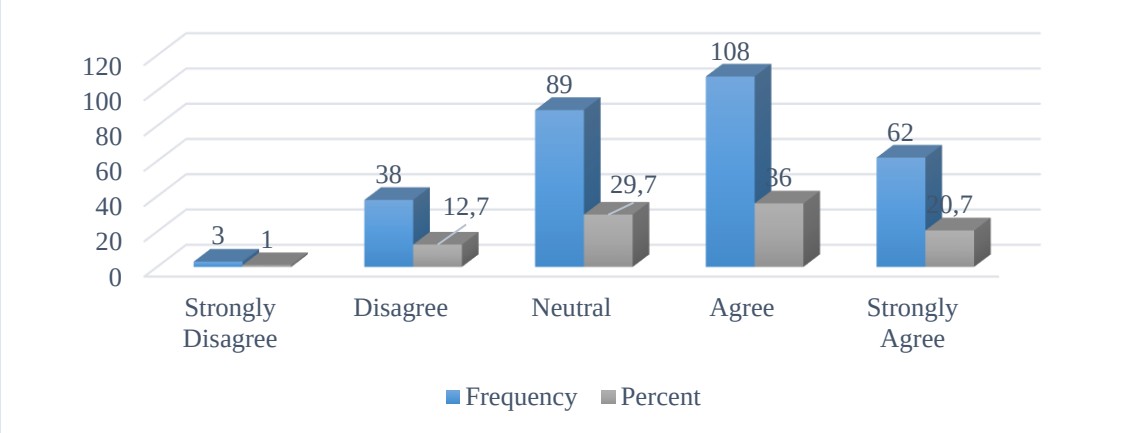


Figure 4.30: Small businesses supported by microcredit have contributed to local economic development.

The above figure 4.30 shows that 36% agreed that small businesses supported by microcredit have contributed to local economic development, while 20.7% strongly agreed. Conversely, 12.7% disagreed, and 1% strongly disagreed, with 29.7% remaining neutral. while a majority recognize the positive impact of microcredit on local economic development, the significant neutral and dissenting responses suggest that some users may have varying perceptions of this contribution.

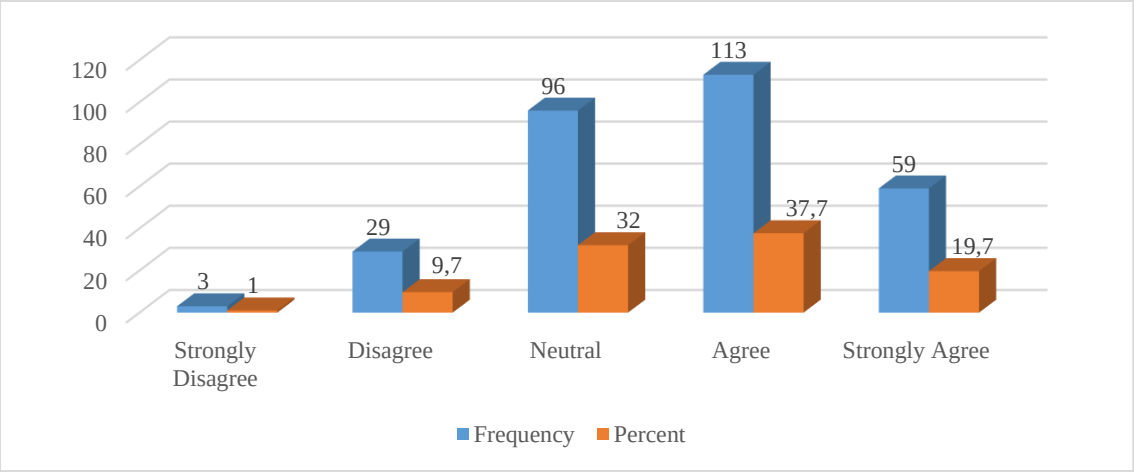


Figure 4.31: Microcredit has empowered individuals to become self-employed and create job opportunities.

The above figure 4.31 shows the finding of indicates that 37.7% agreed that microcredit has empowered individuals to become self-employed and create job opportunities, with 19.7% strongly agreeing. Equally, 9.7% disagreed, and 1% strongly disagreed, while 32% remained neutral. Overall, while a significant portion acknowledges the empowerment role of microcredit in fostering self-employment and job creation, the considerably neutral response suggests some users may not fully recognize or experience these benefits.

Capacity Building and Financial Literacy

Table 4.10: Capacity Building and Financial Literacy

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

I feel more confident in managing my finances as a result of participating in microcredit programs.	Frequency	29	43	91	93	44
	Percent	9.7	14.3	30.3	31	14.7
Microcredit institutions offer resources and support for enhancing financial literacy among borrowers.	Frequency	2	33	77	136	52
	Percent	0.7	11	25.7	45.3	17.3
I have gained valuable knowledge about budgeting and saving through my involvement in microcredit.	Frequency	2	26	97	108	67
	Percent	0.7	8.7	32.3	36	22.3
Microcredit initiatives have helped me develop skills necessary for running a successful business.	Frequency	4	26	86	133	51
	Percent	1.3	8.7	28.7	44.3	17

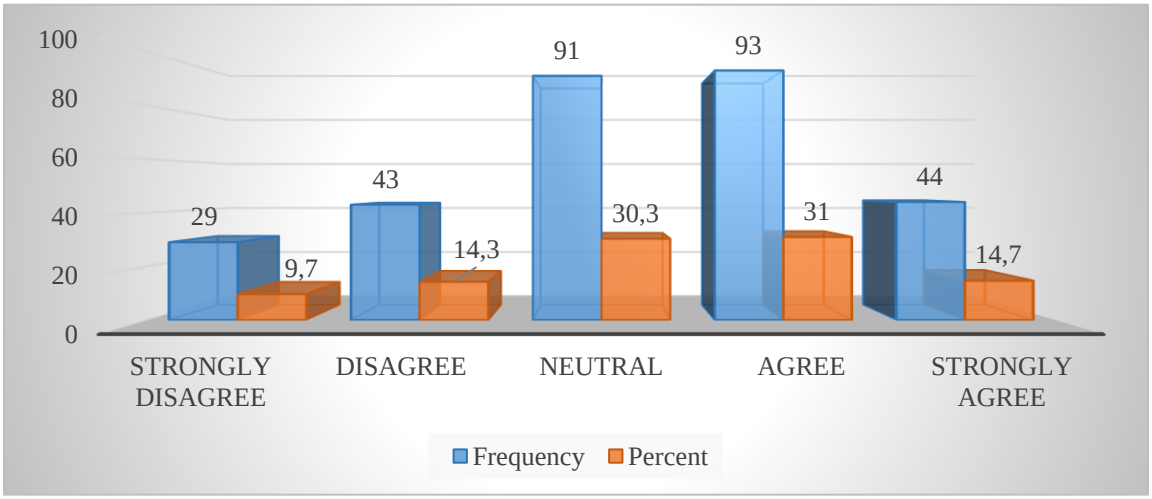


Figure 4.32: I feel more confident in managing my finances as a result of participating in microcredit programs.

The above figure 4.32 shows that 45.7% of respondents agree or strongly agree that microcredit programs have boosted their financial confidence, while 30.3% remain neutral. A smaller portion, 24%, disagree or strongly disagree. This suggests that while many find microcredit beneficial, a notable segment is either neutral or skeptical.

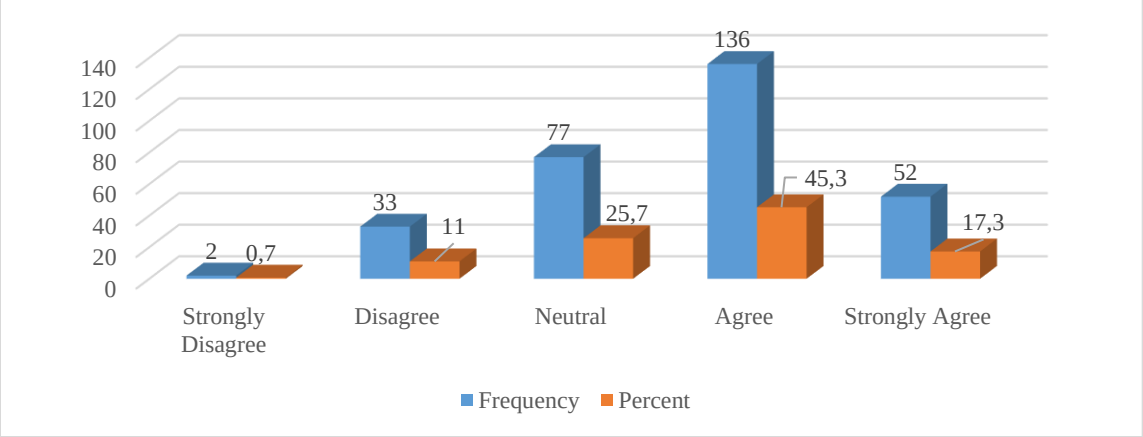


Figure 4.33: Microcredit institutions offer resources and support for enhancing financial literacy among borrowers.

The above figure 4.33 shows the finding of the survey that 62.6% of respondents either agree or strongly agree that microcredit institutions offer resources and support to improve financial literacy. Around 25.7% are neutral, while 11.7% express disagreement. Overall, most respondents view microcredit institutions positively in terms of enhancing financial literacy.

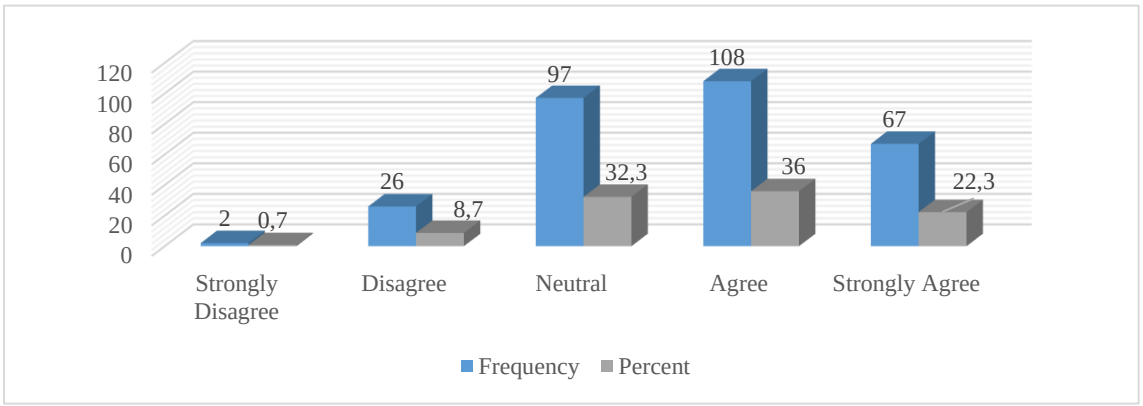


Figure 4.34: I have gained valuable knowledge about budgeting and saving through my involvement in microcredit.

The above figure 4.34 shows the findings on the statement that have gained valuable knowledge about budgeting and saving through their involvement in microcredit. According to this, 58.3% of respondents agree or strongly agree that they have gained valuable knowledge about budgeting and saving through microcredit involvement. Around 32.3% are neutral, while only 9.4% disagree or strongly disagree. This suggests that a majority of participants find microcredit beneficial for improving their financial skills, though a significant portion remains neutral.

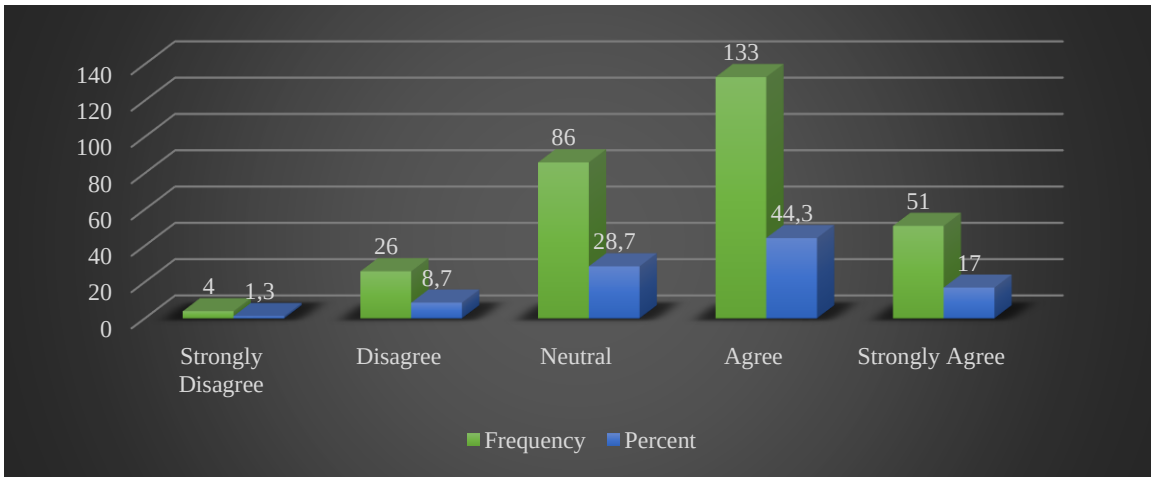


Figure 4.35: Microcredit initiatives have helped me develop the skills necessary for running a successful business.

The above figure 4.35 shows that 61.3% of respondents agree or strongly agree that microcredit initiatives have helped them acquire important business skills. Around 28.7% are neutral, while 10% express disagreement. This reflects a generally positive view of microcredit's role in fostering business skills, with some respondents remaining neutral.

Poverty Eradication

Table 4.11: Poverty Eradication

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
	Frequency	28	38	87	100	47

I have observed an improvement in living standards among microcredit beneficiaries.	Percent	9.3	12.7	29	33.3	15.7
Microcredit initiatives have helped individuals break the cycle of poverty.	Frequency	2	31	82	133	52
	Percent	0.7	10.3	27.3	44.3	17.3
Poverty levels have decreased as a result of microcredit programs in my area.	Frequency	2	34	88	119	57
	Percent	0.7	11.3	29.3	39.7	19
Microcredit has provided opportunities for marginalized populations to improve their economic status.	Frequency	6	34	76	135	49
	Percent	2	11.3	25.3	45	16.3

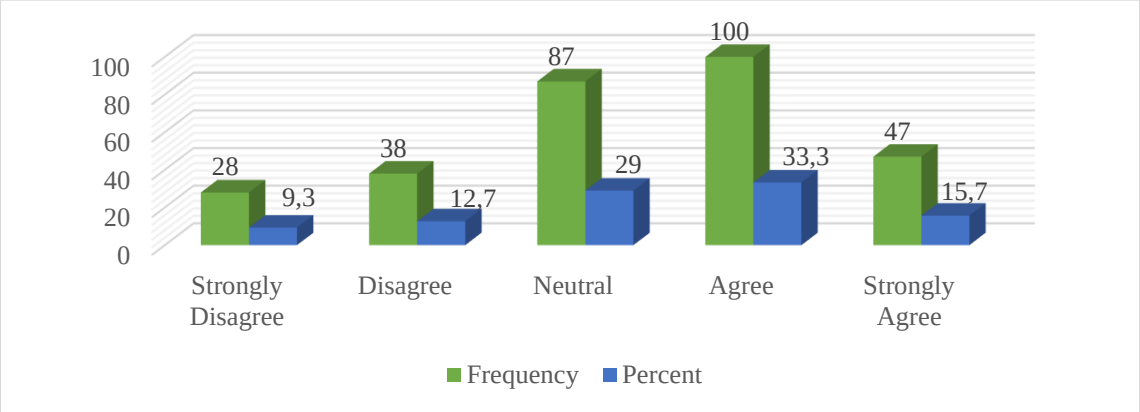


Figure 4.36: I have observed an improvement in living standards among microcredit beneficiaries.

The above figure 4.36 shows that 33.3% agreed they have observed an improvement in living standards among microcredit beneficiaries, with 15.7% strongly agreeing. Meanwhile, 12.7% disagreed, and 9.3% strongly disagreed, while 29% remained neutral.

While many recognize improvements in living standards, the notable neutral and negative responses suggest that some may not see significant changes among microcredit beneficiaries.

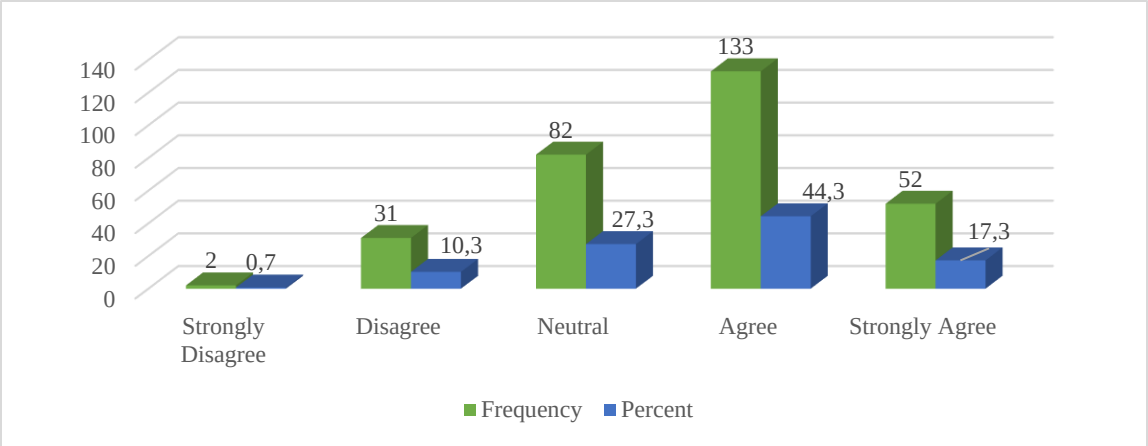


Figure 4.37: Microcredit initiatives have helped individuals break the cycle of poverty.

The above figure 4.37 shows the finding of the survey that 44.3% agreed that microcredit initiatives have helped individuals break the cycle of poverty, with 17.3% strongly agreeing. In contrast, 10.3% disagreed, and 0.7% strongly disagreed. Moreover, 27.3% remained neutral. Overall, while a significant portion views microcredit as effective in reducing poverty, the substantial neutral and dissenting responses suggest some uncertainty about its full impact.

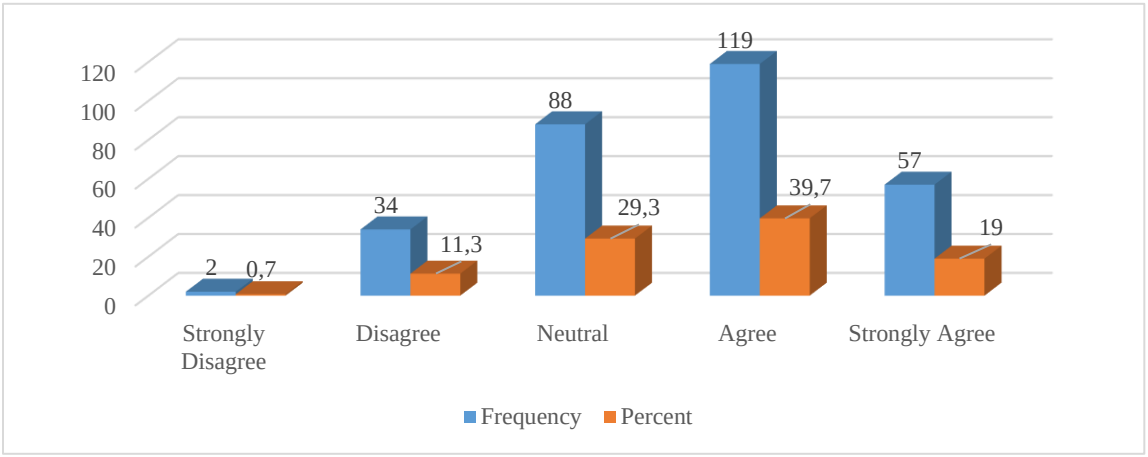


Figure 4.38: Poverty levels have decreased as a result of microcredit programs in my area.

The above figure 4.38 shows that 39.7% agreed that poverty levels have decreased due to microcredit programs in their area, while 19% strongly agreed. While, 11.3% disagreed, and 0.7% strongly disagreed. Additionally, 29.3% remained neutral. While many perceive a reduction in poverty from microcredit programs, the neutral and negative responses indicate that some remain uncertain about their effectiveness in addressing poverty.

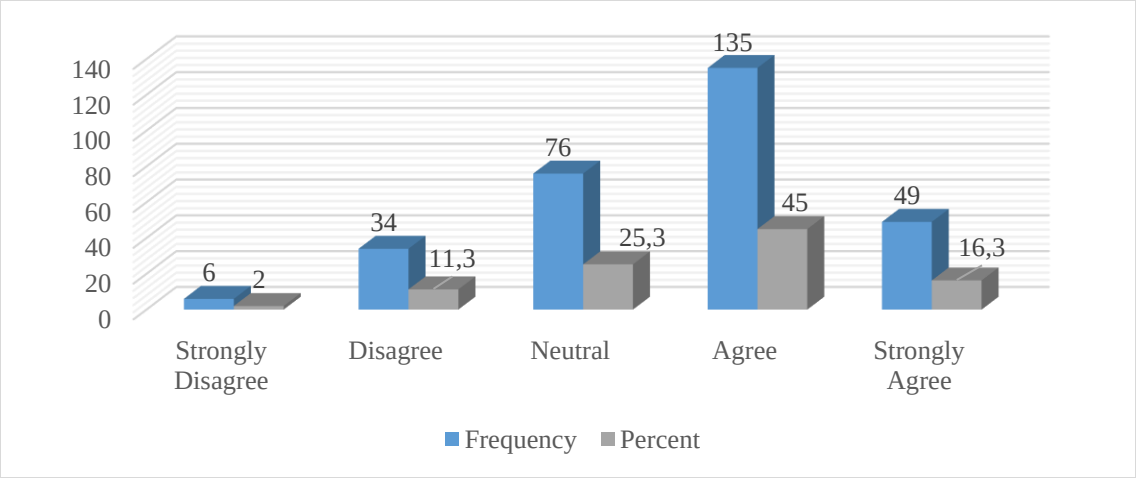


Figure 4.39: Microcredit has provided opportunities for marginalized populations to improve their economic status.

The above figure 4.39 shows that 45% agreed that microcredit has provided opportunities for marginalized populations to improve their economic status, with 16.3% strongly agreeing. Conversely, 11.3% disagreed, and 2% strongly disagreed, while 25.3% remained neutral. Overall, while a significant majority recognize the positive impact of microcredit on economic improvement for marginalized groups, the notable neutral response suggests varying levels of awareness or experience with these opportunities.

4.4 Descriptive Statistics

Table 4.12: Descriptive Statistics

	N	Mean		Std. Deviation
	Statistic	Statistic	Std. Error	Statistic
Gender	300	1.43	.035	.610

Age	300	1.76	.054	.928
Education Level	300	3.05	.055	.951
Employment Status	300	2.14	.092	1.594
Household Income	300	2.06	.087	1.503
Geographic Location	300	1.55	.043	.750
Marital Status	300	1.47	.048	.823
Fintech in Microcredit	300	3.9433	.04379	.75853
Ease of Access to Microcredit	300	3.8100	.04629	.80169
Economic wellbeing	300	3.9367	.04576	.79252
Small-Businesses Generation	300	3.8867	.04676	.80994
Capacity Building and Financial Literacy	300	3.9067	.04497	.77887
Poverty Eradication	300	3.9133	.04742	.82142

Table 4.12 shows 300 respondents with a gender mean of 1.43 and a standard deviation of 0.610, indicating balanced representation. The average age is 1.76 (SD = 0.928), indicating most responders are younger. Education and employment mean 3.05 and 2.14, respectively, with little variance. Household income averages 2.06 (SD = 1.503). Geographic and marital status vary less. Fintech's role in microcredit gets a mean of 3.94, ease of access 3.81, economic well-being 3.94, small-business generation 3.89, capacity building 3.91, and poverty eradication 3.91, reflecting positive perceptions across these domains with minimal variation.

4.5 Hypothesis

Hypothesis 1

- **H0:** There is no significant positive association between Fintech in Microcredit and Ease of Access to Microcredit.

- **H1:** There is a significant positive association between Fintech in Microcredit and Ease of Access to Microcredit.

Table 4.13: Correlations

			Fintech in Microcredit	Ease of Access to Microcredit
Spearman's rho	Fintech in Microcredit	Correlation Coefficient	1.000	.680**
		Sig. (2-tailed)	.	.000
		N	300	300
	Ease of Access to Microcredit	Correlation Coefficient	.680**	1.000
		Sig. (2-tailed)	.000	.
		N	300	300
**. Correlation is significant at the 0.01 level (2-tailed).				

Spearman's rho correlation results in Table 4.13 show a high, confident reminder between Fintech in Microcredit and Ease of Access to Microcredit, with a coefficient of 0.680. This correlation is statistically significant at 0.01 (p = 0.000), indicating a low chance of this result. Due to the association, the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted. finding that Fintech in Microcredit and Ease of Access to Microcredit are positively correlated.

Hypothesis 2

- **H0:** There is no significant impact of Ease of Access to Microcredit on Economic well-being.
- **H1:** There is a significant impact of Ease of Access to Microcredit on Economic well-being.

Table 4.14: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.

Intercept Only	231.252			
Final	34.289	196.963	1	.000
Link function: Logit.				

Logistic regression is used in Table 4.14 above to compare the final model with the intercept-only model. The intercept-only model's 231.252 is much lower than the final model's 34.289 -2 Log Likelihood, indicating a better fit with the data. The outcome variable is predicted more accurately by the resulting model at p =.000 and a chi-square value of 196.963 with 1 degree of liberty than by the intercept-only model.

Table 4.15: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	3.296	8	.914
Deviance	4.480	8	.811
Link function: Logit.			

Goodness-of-Fit values in Table 4.15 evaluate model fit to observed data. The Pearson Chi-Square (3.296, p =.914) and Deviance Chi-Square (4.480, p =.811) show that the model fits well. With high p-values (higher than 0.05), the model fits well because the predicted and observed data are similar.

Table 4.16: Pseudo R-Square

Cox and Snell	.481
Nagelkerke	.534
McFadden	.283
Link function: Logit.	

Table 4.16 shows the explanatory strength of the model as shown by pseudo-R-squared values. The Cox and Snell score of 0.481 indicates that 48.1% of the variation in the dependent variable can be explained by the model. The Nagelkerke R-Square, a

modification of Cox and Snell's, is 0.534 and indicates that 53.4% of the variation is explained by the model. A respectable model fit is indicated by a lower-than-average McFadden's R-Square of 0.283, which is still within the range for logistic regression.

Table 4.17: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[EW = 2.00]	4.304	.672	41.012	1	.000	2.987	5.622
	[EW = 3.00]	7.723	.718	115.844	1	.000	6.317	9.130
	[EW = 4.00]	11.072	.873	160.814	1	.000	9.361	12.783
Location	EAM	2.430	.204	141.837	1	.000	2.030	2.830
Link function: Logit.								

The parameter estimates in Table 4.17 reveal that “Ease of Access to Microcredit” (EAM) significantly affects Economic well-being. Economic well-being increases as EW threshold estimates at 2.00, 3.00, and 4.00 are statistically significant (p =.000), with positive estimates ranging from 4.304 to 11.072. EAM's location parameter is 2.430, with a Wald statistic of 141.837 (p =.000), demonstrating that accessibility to microcredit improves economic well-being. Based on these data, the alternative hypothesis (H1) is accepted and the null hypothesis (H0) is rejected, concluding that EAM affects Economic well-being.

Hypothesis 3

- **H0:** There is no significant impact of Ease of Access to Microcredit on Small-Businesses Generation.

- **H1:** There is a significant impact of Ease of Access to Microcredit on Small-Businesses Generation.

Table 4.18: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	214.798			
Final	39.289	175.508	1	.000
Link function: Logit.				

The logistic regression model, the final model with the intercept-only model, is shown in Table 4.18 above. The -2 Log Likelihood drops significantly from 214.798 in the intercept-only model to 39.289 in the final model, suggesting a major improvement in the model fit. The Chi-Square value is 175.508 with 1 degree of freedom, which is extremely significant (p =.000). The outcome variable can be described by the predictors that make up the final model.

Table 4.19: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	5.289	8	.726
Deviance	5.153	8	.741
Link function: Logit.			

The Goodness-of-Fit results in Table 4.19 are used to evaluate the suitability of the model. With eight degrees of freedom, the Pearson Chi-Square and the Deviance are, respectively, 5.289 and.726. There is no statistically significant difference between the expected and actual numbers, according to high p-values in both tests.

Table 4.20: Pseudo R-Square

Cox and Snell	.443
Nagelkerke	.489

McFadden	.247
Link function: Logit.	

The model explains the data, look at the pseudo-R-Square values in Table 4.20. The model can explain 44.3% of the variability in the dependent variable, according to a Cox and Snell R-Square value of 0.443. After taking into consideration the Cox and Snell constraints, the model explains 48.9% of the variation, as shown by the Nagelkerke R-Square value of 0.489. McFadden's R-Square indicates a decent fit with a value of 0.247, which is modest but typical for logistic regression models.

Table 4.21: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[SBG = 2.00]	4.126	.638	41.822	1	.000	2.875	5.376
	[SBG = 3.00]	7.253	.688	111.245	1	.000	5.905	8.600
	[SBG = 4.00]	10.376	.825	158.244	1	.000	8.760	11.993
Location	EAM	2.231	.191	136.256	1	.000	1.857	2.606
Link function: Logit.								

Table 4.21 shows that Ease of Access to Microcredit (EAM) significantly affects Small-Business Generation. The thresholds for SBG at 2.00, 3.00, and 4.00 are all statistically significant (p =.000), with positive estimates ranging from 4.126 to 10.376, demonstrating that better access increases small-business generation. The location parameter for EAM has an estimate of 2.231 and is highly significant (Wald = 136.256, p =.000), demonstrating a substantial positive association between Ease of Access to Microcredit and small business

generation. The alternative hypothesis (H1) is accepted, whereas the null hypothesis (H0) is rejected, concluding that the Ease of Access to Microcredit affects small-business generation.

Hypothesis 4

- **H0:** There is no significant impact of Ease of Access to Microcredit on Capacity Building and Financial Literacy.
- **H1:** There is a significant impact of Ease of Access to Microcredit on Capacity Building and Financial Literacy.

Table 4.22: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	208.473			
Final	51.384	157.089	1	.000
Link function: Logit.				

The model and the intercept-only model are compared using logistic regression in Table 4.22. From an initial value of 208.473 in the intercept-only model to a final value of 51.384, the model fit is improved. With 1 degree of freedom, the Chi-Square statistic is 157.089, which indicates substantial significance (p =.000).

Table 4.23: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	31.190	11	.001
Deviance	16.019	11	.140
Link function: Logit.			

The model's applicability is demonstrated by the Goodness-of-Fit findings in Table 4.23. There is little agreement between the predicted and actual values since The p-value is.001

and the Pearson Chi-Square score is 31.190 with 11 degrees of liberty. This model fits the data, as evidenced by the Deviance Chi-Square score of 16.019 with 11 degrees of liberty and a p-value of.140.

Table 4.24: Pseudo R-Square

Cox and Snell	.408
Nagelkerke	.453
McFadden	.228
Link function: Logit.	

Table 4.24's pseudo-R-Square values show how well the model explains the data. According to the Cox and Snell R-Square score of 0.408, 40.8% of the variation in the dependent variable can be explained by the model. After taking into consideration the Cox and Snell constraints, the model's Nagelkerke R-Square of 0.453 suggests that 45.3% of the variation is explained by the model. A low but typical value of 0.228 for McFadden's R-Square for logistic regression models suggests a good fit.

Table 4.25: Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[CB_FL = 1.00]	.931	1.138	.669	1	.413	-1.299	3.161
	[CB_FL = 2.00]	3.371	.649	26.987	1	.000	2.099	4.643
	[CB_FL = 3.00]	6.560	.673	94.979	1	.000	5.241	7.880
	[CB_FL = 4.00]	9.901	.822	145.136	1	.000	8.290	11.512
Location	EAM	2.092	.189	122.243	1	.000	1.721	2.463

Link function: Logit.

In Table 4.25, parameter estimates show that Ease of Access to Microcredit (EAM) significantly affects Capacity Building and Financial Literacy. CB_FL thresholds at levels 2.00, 3.00, and 4.00 are statistically significant (p =.000), with estimates ranging from 3.371 to 9.901, indicating that increased access positively correlates with high capacity building and financial literacy. Ease of Access to Microcredit may positively affect Capacity Building and Financial Literacy (Wald = 122.243, p =.000). The location parameter for EAM is 2.092 and has a very significant value (Wald = 122.243). If we accept H1 and reject H0, they conclude that Ease of Access to Microcredit affects Capacity Building and Financial Literacy.

Hypothesis 5

- **H0:** There is no Poverty Eradication significantly affected by Economic well-being, Small-Businesses Generation, Capacity Building and Financial Literacy.
- **H1:** There is a Poverty Eradication significantly affected by Economic well-being, Small-Businesses Generation, Capacity Building and Financial Literacy.

Table 4.26: Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	402.627			
Final	157.808	244.818	3	.000
Link function: Logit.				

The final logistic regression model and the intercept-only model are contrasted in Table 4.26. After including predictors, the -2 Log Likelihood decreases from 402.627 in the intercept-only model to 157.808, showing a better fit to the model. The very significant Chi-Square score of 244.818 with 3 degrees of freedom (p =.000) indicates that the predictors adequately account for the volatility of the dependent variable.

Table 4.27: Goodness-of-Fit

	Chi-Square	df	Sig.
Pearson	5800.621	105	.000
Deviance	99.049	105	.645
Link function: Logit.			

The Goodness-of-Fit results are used to measure the model fit in Table 4.27. With 105 degrees of choice and a p-value =.000, the Pearson Chi-Square score is 5800.621, suggesting that the anticipated and actual values do not match well. Since the deviation does not differ significantly between the anticipated and observed data, the satisfactory fit is specified by the deviation Chi-Square score of 99.049 with 105 degrees of liberty and a p-value of.645.

Table 4.28: Pseudo R-Square

Cox and Snell	.558
Nagelkerke	.615
McFadden	.342
Link function: Logit.	

The model's capacity to explain, as shown by the pseudo-R-Square values in Table 4.28. With an R-Square of 0.558, the model adequately accounts for 55.8% of the difference in the dependent variable, according to Cox and Snell. The model explains 61.5% of the variance, according to the Nagelkerke R-Square, which interprets the Cox and Snell value, which is 0.615. For logistic regression models, McFadden's R-Square of 0.342 is satisfactory, though lower.

Table 4.29: Parameter Estimates

	Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval

							Lower Bound	Upper Bound
Threshold	[PE = 1.00]	4.734	1.270	13.888	1	.000	2.244	7.225
	[PE = 2.00]	7.482	.858	76.105	1	.000	5.801	9.163
	[PE = 3.00]	11.542	1.006	131.553	1	.000	9.569	13.514
	[PE = 4.00]	15.138	1.185	163.218	1	.000	12.815	17.460
Location	EW	1.066	.232	21.043	1	.000	.611	1.521
	SBG	1.234	.228	29.294	1	.000	.787	1.681
	CB_FL	1.041	.228	20.769	1	.000	.593	1.488
Link function: Logit.								

According to Table 4.29, Economic Well-being (EW), Small-Business Generation (SBG), and Capacity Building and Financial Literacy (CB_FL) significantly affect Poverty Eradication (PE). PE criteria from 1.00 to 4.00 are very significant (p =.000), demonstrating that higher levels increase poverty eradication. Location parameters for EW, SBG, and CB_FL are statistically significant (p =.000), with positive estimates of 1.066, 1.234, and 1.041, respectively, demonstrating a strong positive association between each predictor and poverty eradication. Wald statistics affirm these correlations' strength. Thus, Economic Well-being, Small-Business Generation, Capacity Building, and Financial Literacy strongly affect Poverty Eradication, rejecting the null hypothesis (H0) and accepting H1.

CHAPTER V:

DISCUSSION

5.1 Discussion of Results

The study concluded that fintech in microcredit increases access to microcredit, which improves economic wellbeing, small company growth, capacity building, and financial literacy. These findings explain how financial innovations may end poverty.

Fintech and Ease of Access to Microcredit

The vital positive affiliation between fintech and ease of microcredit matches current enquiries about the potential of budgetary innovation to limit money-related benefit obstructions (Mokhtar et al., 2012). Advancements in Fintech have changed the way money-related administrations are given, especially in developing markets where a strong managing an account foundation is truant. By advancing the application handle, giving adaptable reimbursement choices, and hoisting client benefits, fintech stages have balanced get-to-credit for minimized populaces, allowing them to secure stores that were blocked off sometime recently (P. K. Ozili, 2020). These advances permit a broader range of individuals, particularly those from devastated foundations, to utilize microcredit without the normal challenges of noteworthy collateral requests or expanded endorsement timelines (Ghosh, 2011). This comes about to approve this contention, bringing consideration to the way fintech improves.

Impact of Microcredit on Economic Wellbeing

According to the study, financial technology that provides microcredit is fundamentally important for improving economic wellbeing. This result is in line with earlier studies that show that access to microcredit supports individuals in participating in income-producing activities, which improves their economic position (Banerjee, Duflo, et al., 2015). Not just a financial tool, microcredit, especially available on fintech platforms,

ensures that borrowers have enhanced financial independence, allowing them to run their enterprises more adeptly and to invest in the future (Bruton et al., 2011). Having access to credit enables people to direct funds into small business development, own assets that support productivity, and deliver a steady income, which, as a result, advances their economic circumstances. Financial inclusion plays an important role in economic development by underlining this relationship in the wider context of alleviating poverty.

Small Business Generation and Capacity Building

The major impact of microcredit on little trade creation underscores the conviction that getting to back is imperative for the development of business visionaries, especially in under-served markets (Beck & Demirguc-Kunt, 2006). Back for microcredit by fintech stages empowers people to clear monetary obstructions, directing reserves into entrepreneurial interests that make occupations and invigorate the economy (Cull et al., 2009). fintech arrangements as a rule give borrowers more than cash; they too convey capacity-building activities and budgetary education assets that offer assistance to people who oversee their businesses well (Burchi et al., 2021). This total technique of microcredit that combines monetary and instructive assets boosts the supportability of small businesses and plans borrowers superior to bargain with monetary troubles. The studies come to agree with this bigger understanding since microcredit incredibly progresses little commerce advancement and capacity improvement.

Financial Literacy and Poverty Eradication

In the region of financial literacy, fintech in microcredit has delivered an imperative positive effect. The discoveries demonstrate that being prepared to microcredit enormously impacts capacity building and budgetary proficiency, both of which are imperative for accomplishing maintainable destitution mitigation endeavours (Lusardi & Mitchell, 2014). Fintech stages raise users' money-related steadiness through the

conveyance of budgetary information and abilities that offer assistance to them admirably selecting between borrowing, contributing, and investing (Dupas & Robinson, 2013). Fintech that gives monetary proficiency administrations brings down the chance of both defaulting and over-indebtedness, thus enabling borrowers completely to take advantage of microcredit. Additionally, the thinker recognises that the mitigation of destitution is exceptionally related to financial well-being enhancements, setting up little businesses, and teaching budgetary education. This result bolsters the claim that for a maintainable destitution decrease, money-related consideration together with satisfaction (Cull et al., 2009).

Strategic Implications

The comes about of this inquire about provide critical information for policymakers, money related educate, and advancement associations. The solid connections found between fintech, get to to microcredit, and the decrease in destitution suggest that these partners make a need to include fintech arrangements in microcredit programs. Policymakers need to look at the achievability of making neighbourly administrative frameworks that invigorate FinTech development within the microcredit industry, all the while securing customers enough (Beck & Demirguc-Kunt, 2006). Financial sectors should support technologies aimed at widening the reach and reducing the costs of microcredit, and development organisations have the opportunity to deliver financial literacy and capacity-building initiatives specifically for those on low incomes. Ultimately, what makes fintech important is its role in making microcredit more accessible, a situation that yields important benefits for economic health, small business development, capacity building, and fighting poverty. Fintech solutions have the potential to facilitate the decrease of poverty faster in underserved populations by giving people power with financial insights and easing credit constraints. Future studies should pay attention to the

sustainability of fintech microcredit programs across years and their influence on assorted socio-economic demographic groups.

Correlation to the conceptual framework

The results presented in the study are in direct relation to the proposed conceptual framework, which proposes that fintech plays a crucial role in microcredit, thereby increasing the simplicity of access to microcredit and promoting improvements in economic wellbeing, small business formation, capacity building, financial literacy, and ultimately the reduction of poverty. The outcomes support the relationships detailed in the framework and prove that fintech supports an efficient and inclusive microcredit system, which unfolds into larger socio-economic benefits.

At the heart of the framework, we find the claim that fintech innovations ease the application process, deliver flexible repayment alternatives, and boost customer service, resulting in superior accessibility to microcredit. As earlier work by Aker & Mbiti (2010) has suggested, innovations in fintech alongside mobile banking help reduce transaction costs and improve access to financial services, particularly in both rural and underserved regions. As shown in the findings, this easy access is necessary to enhance the involvement of marginalised groups, thus encouraging financial inclusion (Berk, 2016). The conceptual framework also suggests that reduced procedures increase credit accessibility and fintech's transaction convenience (P. K. Ozili, 2020).

According to the conceptual system, this extended get to to microcredit includes a major impact on individuals' financial prosperity. Microcredit made accessible through fintech gives people the monetary backing they require for enterprise, hence making a difference them to development financially. Discoveries delivered by Banerjee et al. (2015) outline that the supply of microfinance makes strides family salary and scales up financial

soundness. At the center of the system, making microcredit promptly accessible is imperative; it empowers people to overcome cycles of destitution and lead wealthier lives.

The conceptual framework appears that the little business generation is one more key outcome associated with fintech-enabled microcredit. The comes about proposing that picking up capital gets to enables people to dispatch and expand little businesses. This compares with previous considerations by Beck & Demirguc-Kunt (2006), who propose that getting to go back is a important calculation affecting entrepreneurial victory in creating economies. Fintech's commitments to the ease of getting to microcredit help shape modern businesses, creating occupations, increase salaries, and supporting financial development, all vital for the disposal of destitution.

Moreover, the framework brings consideration to the significance of both capacity building and financial literacy for utilizing microcredit effectively to combat destitution. The conclusions from the research back this position by appearing that fintech stages deliver financial resources and raise users' financial literacy and abilities. This compares with the discoveries of Klapper et al. (2015), who appear that financial education is key to the maintainability of microcredit programs. Fintech stages offer assistance to make enduring financial stability and reduce destitution by giving people financial administration skills.

The framework integrates economic growth, start-ups, and financial expertise to end poverty. These sectors considerably improve poverty reduction efforts, according to the results. This supports the financial inclusion concept, implying that better credit and financial services can reduce poverty and promote inclusive economic growth. (Cull et al., 2009).

5.2 Discussion of Research Question One

The first study examines fintech's benefits for microcredit availability. The banking industry has been revolutionised by fintech, which is transforming how individuals and

businesses, especially in underserved areas, receive microcredit. The study found that fintech improves microcredit accessibility, cost, convenience, and customer service, promoting financial inclusion and economic empowerment.

Enhanced Accessibility

Accessibility is one of fintech's biggest microcredit perks. Established financial institutions sometimes require collateral or a lot of documentation, which may prevent low-income persons from getting microcredit (Demirguc-Kunt et al., 2018). By contrast, fintech uses digital platforms to streamline loan applications, reducing many of these obstacles. Mobile fintech apps allow users to apply for loans via their phones, minimising bank visits and direct interactions. This technological revolution of financial services improves loan access for remote and underprivileged areas (Gomber et al., 2017). Fintech platforms also use mobile phone usage and social media interaction to assess credit risk and lend to those without credit histories (Bazarbash, 2019). The alternative data strategy increases the number of eligible borrowers, giving historically overlooked populations microcredit access.

Reduced Costs

Fintech outperforms traditional financial services in cost. The online character of fintech platforms lowers the overhead expenditures related to physical banking, which includes keeping branches and paying staff, a cost that can burden microfinance institutions operating in rural or underserved locales. The savings in terms of finance enable the shrinkage of consumer expenses through reduced interest rates or fewer charges, making microcredit extra affordable (Beck, 2020; RANADE, 2017). The performances of fintech platforms are generally better in the area of loan processing than those of traditional banks, thus reducing the associated costs of lending (Philippon, 2019). Such efficiency is important in microcredit markets, where compact loan sizes imply that higher transaction

costs can have a disproportionate impact on the affordability of credit. Marginally decreasing these costs permits fintech platforms to promote improved access to microcredit for those with low incomes, contributing to the cause of financial inclusion.

Improved Convenience

Yet another benefit of fintech in microcredit is the ease of use it allows to borrowers. Conventional microfinance institutions usually call for borrowers to attend a branch many times throughout the loan process, which can be both costly and time-consuming, notably for individuals in rural areas (Babajide et al., 2020). Fintech platforms permit borrowers to apply for, accept, and repay loans in full online or via mobile applications, strikingly decreasing the investment of time and energy needed. The ease this provides is mainly advantageous for people who can't afford to take time away from work or cover long travel distances to access a financial institution. Ultimately, fintech platforms permit users to access services at any time of day, which helps those borrowers oversee their finances whenever they prefer (Lewis et al., 2016). The study shows that fintech platforms' convenience boosts microcredit access.

Better Customer Service

Microcredit benefits from Fintech platforms' enhanced customer service. Traditional financial institutions frequently provide little customer support, especially in underserved areas where staffing and infrastructural issues might hinder service. Fintech provides real-time assistance to borrowers via chatbots, clever AI in customer care, and automated replies (Fuster et al., 2019). These tools ensure that borrowers may get the information and support they need during loan applications and repayment choices. Data analytics allows fintech platforms to offer customised financial products and services to individual borrowers (Haddad & Hornuf, 2019).The personalised solution helps borrowers manage their debts, increasing repayment rates and reducing default risk.

Financial Inclusion and Economic Empowerment

To put it briefly, microcredit offer assistance through fintech is important for making progress within the ambitions of financial inclusion and financial empowerment. Fintech stages improve financial resources accessibility for individuals in low-income or underserved communities by minimising credit access barriers, reducing costs, improving comfort, and increasing customer benefit. Research including the work of Beck et al. (2009) outlines that way better microcredit accessibility can create improvements in family pay, educational achievements of tall quality, and financial stability, which are important for decreasing poverty. The enquire about comes about agrees with the generally body of writing, confirming that fintech is important for better get to to microcredit and for making a difference people improve in their financial status.

The study, in substance, confirms that fintech offers different important preferences for the microcredit industry. Benefits include enhanced availability, lowered costs, improved in comfort, and superior customer benefits, which all support more prominent financial inclusion. The mixing of fintech technology into microcredit delivery might change the way financial services are accessed, particularly for people with low incomes, and significantly underpins poverty easing and financial empowerment efforts.

5.3 Discussion of Research Question Two

The second investigation question looks into the part of fintech in moving forward get to to microcredit. Fintech has essentially influenced how individuals, particularly those from underserved or low-income areas, procure microcredit, study results discover. Fintech has utilized technological improvements to facilitate passage, raise speed and effectiveness, present modern credit-scoring frameworks, and make a more inclusive financial platform. The change in availability of microcredit for people and little businesses

may be a result of these variables, which have already barred them from taking part in formal financial systems.

Reduction of Traditional Barriers

Fintech plays a major part in enhancing microcredit accessibility by removing the traditional hurdles to credit. The common necessities of traditional financial institutions—including the requirement for collateral and a solid credit history, besides broad paperwork—make it difficult for individuals of low-income to secure credits (Demirguc-Kunt et al., 2018). Fintech platforms vary in their approach by disassembling these barriers, simplifying the application process and giving individuals get to computerised solutions that allow them to apply for microcredit from their mobile phones or through online means. Leong (2018) describes how fintech firms facilitate simpler get to to credit by propelling online entrances that mechanize applications, minimizing the paperwork and the basic requirement for users to visit a financial institution.

Nearby, fintech enterprises have generated alternative credit-scoring approaches that utilize information other than traditional means, including mobile phone habits, social media activity, and exchange records, to examine financial soundness. Individuals who don't have a formal credit history or have a place to the casual economy discover this to be particularly valuable (Jagtiani & Lemieux, 2019). Elective credit-scoring frameworks offer assistance fintech services to cater to a broader determination of borrowers, comprising those who might something else go unserved by conventional banking.Philippon (2019) contends that these creative models allow fintech firms to enter underserved markets, hence increasing the reach of microcredit for financially excluded populations.

Speed and Efficiency in Loan Processing

Also critical is the quick processing and efficiency of credits in influencing the get to microcredit. Longstanding microfinance teach commonly requires a point-by-point

evaluation prepare, with a few stages of survey and actual gatherings between borrowers and lenders (Lashitew et al., 2019). It can be decidedly cumbersome for individuals in rural or farther situations, where limited get to to banking may be an issue. Fintech stages, nonetheless, take advantage of automation and algorithmic decision-making to incredibly decrease the application and microcredit receipt timelines. Frost (2020) reports that fintech stages manage loan approval and dispensing in minutes or hours, while traditional back organisations regularly take days or weeks for comparative capacities. The speedy response time is particularly beneficial for small businesses and entrepreneurs that require fast capital to create utilize trade opportunities.

In addition, financial technology arrangements grant borrowers round-the-clock access to financial services enabling them to apply for microcredit outside of standard banking hours (Bazarbash, 2019). Fintech stages appreciate improved comfort thanks to this consistent availability, which makes microcredit more open to a bigger audience, such as those who are time or geographically limited. The study's findings support this, as borrowers are famous for the quickness and productivity of fintech solutions as a leading reason for their increased utilize of microcredit services.

Geographical Reach and Financial Inclusion

Fintech's skill in extending the geographic scope of financial services is another important influence on microcredit openness. In many developing countries, it appears that a significant part of the populace dwells in rural regions, where there's limited or no representation from traditional financial institutions (Beck et al., 2018). Building up branches in outlying territories frequently has high costs, which, as a rule, discourages banks from providing services to these communities. Fintech employs mobile banking, digital platforms, and agent networks to eliminate these limitations and give microcredit to individuals in all areas.

For instance, mobile money has achieved a great deal in deepening and Opening up access to financial services in sub- Saharan Africa primarily because nearly everybody including the farmers in the rural areas use mobile phones. Aker & Mbiti (2010), do note that mobile money systems like M-Pesa in Kenyan have initiated a new generation of financial services helping users make transactions and avail loans even if they do not need a conventional bank account. These innovations have been grasped by fintech platforms to the maximum by integrating the features of mobile banking with microcredit services to ensure that users continue to have a smooth experience even in the off-grid areas (Suri & Jack, 2016). The geographical spread can be seen to have an innovation as used in enhancing access to microcredit in under-banked segments.

Cost-Effective Solutions

The value for money provided by fintech solutions shapes their contribution to the accessibility of microcredit. In traditionally modelled banking, the operational costs are high, making microcredit excessively expensive for both lenders and borrowers, particularly in underserved sectors (Beck et al., 2009). Fintech platforms, nevertheless, are usually more economical and efficient because they depend on digital systems and do not need the high costs associated with physical spaces. According to Chen & Divanbeigi (2019), the operational cost reductions of fintech platforms help them supply microcredit at less expensive interest rates, which makes credit more financially reachable and affordable for people of low income. This cost advantage is very important for borrowers pursuing small loans, as high interest rates or charges can rapidly make the loan unmanageable.

In aggregate, it is feasible to state that the upward trend affects the availability of microcredit in the following regards associated with fintech. It has extended microcredits for more and different businesses through reducing credit hurdles, using new credit scoring

systems, quick loan processing, branching out, and providing cheap solutions. The current growth has been marked with traditional financial institutions failing to offer services to these neglected areas, although some innovations have also been of some help. Microcredit has been enhanced by fintech application, financial inclusion as well as empowering the economy.

5.4 Discussion of Research Question Three

The third research question relates to the identification of how microcredit can contribute to improving economic freedom and welfare, small business creation, and autority that consists of microcredit organization and understanding of its clients. Micro credit is defined as small credit facilities targeted at the needy and poor-populised business segments; In particular, micro credit has been recognised in its potential for economic development of poor and needy segments. The first effect of microcredit which is the enhancement of economic welfare through the provision of funds for investment in earning generating activities for the targeted individuals and or households. Analysis has found that microcredit has a positive effect on standard of living, business profits and outcomes and contains a stabilizing influence on the economy by reducing vulnerability to adverse economic shocks which shows the potential for micro credit serving as means of stimulating and stabilization of the economy (Banerjee, Karlan, et al., 2015). Microcredit also has a responsibility to support generation of small business which are significant in the process of economic development particularly in developing countries. Microcredit allowing start or owner of small business to provide the amount of money necessary for creation or further development of small enterprises lets to start productive activities, provide opportunities to create new workplaces, and thus stimulate local development (Chatterjee et al., 2006). Data sources show there is a great likelihood of small business firms which have accessed microcredit to survive and grow compared to the firms which

do not have access to financial capital (Hermes & Lensink, 2007). Such businesses mainly work in segments such as agricultural commodities; retail trade; and services that form an opportunity front for the economic transformation of low-income regions.

In addition, microcredit enhances capacity building because it enables people to protect their businesses, as well as having an understanding of some of the financial instruments that underpin business operations. Almost all the micro finance institutions (MFIs) have adopted include subjects such as basic personal finance, understanding of budgets, saving, and investing in their portfolio. This education result in more sophisticated decision-making in lending products in targeting borrowers with credit deficits, thus mitigating credit risk, enhanced business performance and hence financial sustainability (Drexler et al., 2014). Personal financial management and the economic development is enhanced by technically bringing up a financially literate society.

Another interaction that exists between microcredit and capacity building has also been touched on with regard to social capital. In community loan schemes, loan beneficiaries form groups in knowledge sharing and networking for skill development, development of individual entrepreneurship and identification of new market opportunities (Bruton et al., 2011). A coordinated strategy improves relations among the individuals within the community and increases social capital that is important when developing and maintaining economic viability. Thus, microcredit performs several roles for improving the economic situation, to create qualified demand for small businesses and increasing the level of financial literacy, and it plays a significant role in fighting poverty and improving the overall quality of economic empowering.

5.5 Discussion of Research Question Four

The push to eliminate poverty is one fraught with discussion, with evidence pointing to the fact that limited access to small-scale finances can considerably reduce the

level of poverty in underrepresented communities. By accessing microcredit, impoverished or agricultural communities can harness the financial resources needed to start activities that shape enhanced income and higher levels of economic independence and strength. The main impact of microcredit is to cut poverty by improving household income, achieving better consumption management, and granting improved entry to healthcare and education, according to Khandker (2005). Improvements in fiscal challenge administration improve empowerment, which allows families to escape the cycle of poverty by pursuing sustainable livelihood development.

Microcredit serves as a clear example of its effect in reducing poverty by increasing the economic power of women. According to Swain & Wallentin (2009), women who are the principal borrowers of microcredit often utilise loans to launch or enlarge small enterprises, resulting in greater power over household finances and decision-making roles. From an economic perspective, empowerment is only a fraction of the issue; it also helps to advance social inclusion and boost family welfare too. Pitt et al. (2006) show that making microcredit available to women produces superior health results, better nutritional status, and educational growth in children, leading to a multiplier effect that could significantly change the course of poverty in societies.

Microcredit seeks to address the fundamental problems that render efforts to eliminate poverty complicated, such as a scarcity of formal banking services and capital limitations. By delivering financial services without the tough conditions of traditional banks, microcredit institutions are a critical support to individuals locked out of the general financial system (Morduch, 1999). Moreover, this kind of inclusivity possesses great importance for fulfilling urgent financial demands and for helping individuals build assets and create financial security, which are fundamental to reducing persistent poverty.

Still, even though microcredit has revealed considerable advantages, it does not solve the problem of poverty elimination. People who are uncertain believe that microcredit is insufficient in resolving the fundamental systemic problems of poverty, especially concerning inadequate infrastructure, inaccessible markets, and broad economic inequalities (Courtney Kurlanska, 2010). Research has shown that high interest rates together with over-indebtedness can weaken the poverty reduction capabilities of microcredit (Sanyal, 2014). As a consequence, microcredit's capability to eliminate poverty is principally related to its integration with other development strategies, like education, healthcare, and skills training, which have a strong potential to improve its success. Microcredit serves an important purpose in reducing poverty, mainly by conferring individuals' power, improving economic opportunities, and fortifying social partnerships. Even if it doesn't constitute a complete answer, the data shows its usefulness in breaking the poverty cycle, particularly as part of extensive development initiatives.

5.6 Discussion of Research Question Five

Policymakers, financial institutions and development organisations need to implement strategic recommendations to achieve maximum effect from fintech in the context of poverty alleviation through microcredit. A critical suggestion for regulators is to build a supportive framework that strengthens the combination of fintech innovations and microfinance. In the scope, we have the creation of regulations that promote competition, champion consumer rights, and maintain data security. Within regulatory sandboxes, fintech organisations can test innovative solutions under regulatory supervision and thus foster the rise of new financial products for low-income sectors (Jenik & Lauer, 2017).

For microfinance institutions (MFIs), particularly, utilising digital platforms to heighten service delivery can greatly boost the accessibility and affordability of

microcredit. The on-boarding procedures go digital to extend the microcredit to some previously unserved categories such as the rural poor while adoption of mobile money, digital wallets, and other related technologies reduces operational costs as identified by (Demirgüç-Kunt et al., 2017). Financial inclusion and the ability of borrowers require that institutions back up initiatives aimed at training their clients to be able to fully use these platforms, which clearly requires a lot of capital investment. At the same time, traditional and new credit scoring methodologies that make use of data analytics and machine learning, enable credit score enhancement and credit provision to borrowers who have no conventional credit record, and consequently, increase financial inclusion for those who are financially excluded (Björkegren & Grissen, 2020).

Most of the micro credit by using fintech gets support from developmental organisations which provide funds, technical assistance combined with several capacity building activities for both the MFIs and the Fintech players. When working together, development organisations, financial institutions, and fintech companies can increase the size of the market for new financial products that will help the poor, such as microinsurance and saving devices. While engaging and partnering with the private sectors can help garner resources and information on how best to reach underserved and hard-to-reach populations with digital financial services (Beck et al., 2018).

Furthermore, all stakeholders want to focus on the approaches, which are based on the customers by aiming at the product development, which would be relevant to people with low income. This includes presenting different forms of repaying the loan amount, having less complex interfaces on the matches, and strong customer service. Consequently, constant assessing of fintech activities can provide knowledge of their impact, making it possible to modify and enhance the service provision as early as possible (Suri & Jack, 2016).

In conclusion, poverty alleviation as well as utilization of micro credit within the system of fintech require cooperation of policy makers, banking companies and development organisations. Stakeholders can amplify fintech's transformative abilities to reduce poverty through the supportive regulatory environment they create, the improvement of digital service delivery, the use of credit assessments based on data, and a focus on solutions that prioritise customer satisfaction.

CHAPTER VI:

SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

6.1 Summary

This thesis investigates the important role of financial technology (fintech) in microcredit and its possible contribution to ending poverty. It focuses on understanding various potential advantages of fintech in enhancing microcredit availability of fodder, and examines how microcredit originating from fintech supports other aspects of economic welfare, small businesses' formation, capability, and financial training. The work deems it given that advances in fintech have changed the microcredit picture, expanding access to financial services for the targeted populations and significantly helping the effort against poverty. This study proposes five main research questions and related hypotheses that form the structure for this research as it establishes the use of fintech to address the issue of microcredit availability and the larger implications of using fintech to eradicate poverty.

The conceptual framework of the research illustrates a clear pathway: As a result of fintech, getting microcredit is less difficult due to simple and advanced application procedures, freedom in repaying the loan, competitive customer services, and smooth transactions. It is further postulated that such envisaged rise in access will have a positive bearing on economic welfare, encourage more start-ups of new businesses, enhance financial management and capability, and thereby control poverty. These research aims are designed to provide extensive coverage of these relations and provide understanding of how fintech boosts microcredit accessibility and the consequent socio-economic benefits that alleviate poverty.

The analysis proves that the usage of fintech positively influences the popularity of microcredits. The preliminary estimates prove the significant positive relation between fintech and the availability of microcredit. Technological adaptations directly assist in the

diminution of the microcredit application, reduction of the transaction costs, and creation of products that are special for the clients, who do not have access to conventional financing. These developments thus facilitate the delivery of microcredit where many eligible, both individuals and business start-ups, can secure the finance needed for their development.

The present investigation also focuses the role of liberal microcredit provision on economic development. This second hypothesis supports that easy access to micro credit greatly enhances economic welfare to the extent that financial capital empowers people to undertake investment for income generating activities, to manage consumption and avert financial risks. This access operates as a significant form of assistance to buffer presumed vulnerable populations in terms of stability and buffer. The research examines yet another key point: small-business generation. The third hypothesis stated that easy access to microcredit is central in the process of new enterprise creation and also enterprise growth. This ability is assisting the owners and the managers to initiate and expand their businesses in addition to assisting in the creation of jobs and increasing business diversification. The study reveals that due to their faster funding and more flexible pay-back terms small businesses that usually have poor access to more conventional forms of financing with the help of fintech microcredit solutions.

Highlighted above, microcredit access affects both the availability of capacity-building resources and improvement of financial capacity. The fourth hypothesis challenges that are easy microcredit availability leads to improved capacity building and financial literacy. Concerning information made available to borrowers through the engagement of fintech platforms, these are in most cases exposed to educational endeavours in finance management, budgeting and evaluation of investment prospects. It’s important for the formation of stable economical paradigms and for helping people make

correct financial decisions if one is armed with these capabilities. The last hypothesis examines the manifold correlation of microcredit as a tool for eradicating poverty. The examination asserts that making poverty eradication remains a possibility concerns with economic health developments, small entrepreneurship, and capacity, and achieving financial literacy. The findings further suggest that with the use of microcredit brought about by the development of fintech, a significant aspect of enhancing communities is obtained through the provision of the latter in order to gain financial means for coming out of poverty.

This research work therefore concludes that while the microcredit sector is defined by the impact of fintech, so is its prospects of change for improved access to financial services and social and economic development. The study has provided policymakers, financial and development organisations the wise direction on how to appropriately employ the fintech innovation in microcredit to deal with poverty challenge. When designing their poverty alleviation plans, stakeholders can leverage on fintech to advance technological solutions to expand financial access, support underserved populations and advance greater wider economic goals. This thesis contributes to the literature of both fintech and microfinance with valuable insights about the intersection of technology and financial services with the poverty reduction.

6.2 Implications

This study has some significant implications for policy-makers, financial organisations, development institutions, and other anti-poverty actors interested in applying financial inclusion. The first point is that the positive link between the availability of microcredit and fintech ‘cements’ the by now, well-known fact that more and more attention should be paid to the use of technology in microfinance services by stakeholders. The progress made by Fintech, including digital lending platforms, mobile banking, and

AI that plays a role in credit assessments, the microcredit process has become more convenient and faster, making financial services accessible to underserved communities. To continue expanding the outreach and performance of microcredit services, policymakers must, as a result, implement a regulatory framework that nurtures fintech innovation and protects consumers and their data.

The conclusions regarding ways that microcredit a corollary to the potential scope of innovative finance affect economic health state that the call for using financial technologies might be an approach to increasing personal and community economic productivity. Credit facilities made easy by fintech to low income earners who nevertheless can invest in business ventures that earn income to improve on their financial position and create assets. This has profound implications for developmental coalitions seeking to achieve economic stability and reducing product risk for populations on the periphery. Fintech programs that afford microcredit and assistance serves help to foster crucial macroeconomic targets and lessen income disparity to foster additional entailed financial inclusion.

Futhermore, the study mentions the role of microcredit in developing new business and sustaining existing ones; thereby suggesting that microcredit offered by fintech startups has an opportunity in entrepreneurship development. Financial institutions are encouraged to develop special products that suit the peculiar needs of small and micro-entrants leading to expansion of businesses and job creation. This is especially the case in the emergent economy where costly physical infrastructure of the standard banking service is still inadequate. Fintech allows financial organizations to expand the client base and provide such cash as is needed for endeavoring and generating enterprise, which contributes to local wellbeing.

Educational enhancement and financial literacy besides the question of microcredit accessibility mean that fintech may play a key role in individuals' financial education, in which knowledge and skills are required. It means that money is invested in the financial literacy of qualifications that are a part of fintech solutions and assist users in developing financial decision making skills. There is the potential of cultivating a financially literate community capable of making appropriate and sustainable use of the offered products.

The study lastly concludes that microcredit is a major point to poverty reduction while also stressing on the importance of fintech for an inclusive development. To help solve the unique problems confronting impoverished populations, a relationship among policymakers, financial institutions, and development organizations should culminate in the design and introduction of fintech solutions. The stakeholders have the ability to forge a more inclusive financial system thanks to fintech, thereby improving both sustainable economic growth and poverty reduction.

6.3 Recommendations for Future Research

The results of this study present important understandings of the effect of fintech in microcredit on the goal of eliminating poverty. There continue to be several topics for further research that could deepen understanding and resolve the shortcomings of this study. Initially, upcoming research should evaluate the long-range consequences of microcredit supported by fintech on economic health and poverty alleviation. Even though this study reveals important short-term impacts, further longitudinal studies would give a richer understanding of the ways in which consistent availability of fintech-driven microcredit impacts financial stability and poverty reduction over time.

In addition to current research, the future studies should analyse how specific fintech innovations, along with blockchain, artificial intelligence, and machine learning, affect the efficiency, transparency, and accessibility of microcredit. This would suggest the

opportunity for a more elaborate study into how distinct technological tools separately enhance financial inclusion and the fight against poverty. In short, additional comparative analyses across several regions or countries will give essential understanding of how local regulatory environments, financial systems, and social and economic climates impact fintech's performance in microcredit.

Ongoing studies must include an investigation into difficulties and risks related to fintech microcredit, focusing particularly on data security, privacy, and risk of financial exploitation. Understanding the threats and surprising effects of fintech usage, such as over-indebtedness or the detachment from people who lack technological skills, is important in keeping fintech a tool which promotes both equity and inclusivity for the cause of alleviating poverty.

In addition, continuous research can measure how microcredit supported by fintech impacts a range of demographic populations, notably women, young adults, and rural communities. Understanding how microcredit influenced by fintech technology affects these vulnerable groups would lead to important knowledge for the development of tailored interventions that respond to their specific financial needs.

Finally, more investigation is needed to determine how laws and regulations have influenced the development of fintech in microcredit. Policymakers could benefit from useful advice on how to effectively promote fintech innovation while maintaining consumer protection and financial stability from comparative evaluations of various legislative measures. A more thorough understanding of the interactions between fintech, microcredit, and the eradication of poverty would result from such research.

6.4 Conclusion

This research focuses on the way financial technology (fintech) is transforming the microcredit sector and its extensive implications for the elimination of poverty. This study

underscores several merits of fintech microcredit and demonstrates the ways in which technological innovations have made financial services more accessible, cheaper, and friendlier to underserved segments. The findings illustrate a marked positive relationship between fintech and the easy availability of microcredit, confirming that fintech solutions—digital platforms, mobile applications, and automated lending systems—are important in removing access barriers to finance. These results stress the possibilities of fintech in bringing together financial inclusion, especially within marginalised groups who have historically faced exclusion from standard banking ecosystems.

The study confirms that better access to microcredit markedly improves economic wellbeing, encourages the establishment of small businesses, and enhances capacity building and financial literacy. Fintech-enabled microcredit, from the findings, appears to do more than simply furnish gbimportant financial resources; it supports individuals and communities in pursuit of economic opportunities, in maintaining stable finances, and in developing enduring resilience. The impact on small business creation is notably remarkable, as it signifies the way microcredit supports entrepreneurship, creates positions, and stimulates local economy. This goes a long way to emphasise the importance of expanding microcredit initiatives fueled by the 'fintechs' towards the support of the inclusive economic growth.

In addition, the results reveal that higher economic development, new opportunities for small enterprises' development, and increased financial literacy provide solid support to fight poverty. The chance to improve the financial status and attain better opportunity to access economic resources due to fintech makes microcredit as effective tool against poverty. This has implications for the need to especially remain discerning with regard to fintech products designed for the economically marginalized in order to provide them with versatile, accessible and affordable products. The research also emphasizes the significant

issues that must be taken seriously in the area of microcredit for fintech, the risk of indebtedness, security of information, use of technology, among other issues which might hamper the efforts toward improving the microcredit for people in need through the implementation of fintech. The challenges make it necessary to balance the method in a way that will enhance the benefits of fintech and at the same time reduce on the risks. For financial organizations, officials, and development partners to promote innovation and end-users' protection and increase financial literacy, the development of a conducive environment is needed.

Ultimately, this study concludes that fintech-provided microcredit is an essential conduit for expanding the underprivileged population's access to financial services and enhancing global goals for eradicating poverty. The results highlight how improving the financial sector for marginalised communities can be accomplished through the application of technological developments. Thanks to the synergy of Fintech and Micro credit strategies all stakeholders are helping to provide technology support to people, improve the economy, and reduce sustainable poverty. To support the future efforts focused on fintech it is crucial to emphasize that it remains a fair and non-reducing force that empowers people and fights against poverty.

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APPENDIX A:

QUESTIONNAIRE

Gender

- Male
- Female
- Non-binary
- Prefer not to say

Age

- 18-24 Years
- 25-34 Years
- 35-44 Years
- 45-54 Years
- 55-64 Years
- 65 Years or above

Education Level

- High school
- High secondary school
- Bachelor's degree
- Master's degree
- PhD
- Other

Employment Status

- Employed full-time
- Employed part-time
- Govt. employed

- Self-employed
- Unemployed
- Student
- Other

Household Income

- Less than ₹20,000
- ₹20,000 - ₹50,000
- ₹50,001 - ₹80,000
- ₹80,001 - ₹100,000
- ₹100,001 - ₹150,000
- ₹150,000 or more

Geographic Location

- Urban
- Suburban
- Rural

Marital Status

- Single
- Married
- domestic partnership
- Divorced
- Widowed
- Other

Have you ever utilized microcredit services?

- Yes
- No

STRUCTURE QUESTIONNAIRES

1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree and 5: Strongly Agree.

Fintech in Microcredit

Statements	**1**	**2**	**3**	**4**	**5**
Ease of Application Process					
The fintech platform provided clear instructions.					
I encountered technical difficulties during the application process.					
The fintech platform allowed easy uploading of required documents.					
Flexibility in Repayment Options					
I found it easy to customize my repayment plan according to my financial situation.					
The fintech platform provides options for adjusting repayment amounts.					
The fintech platform offers grace periods or flexibility in case of financial emergencies.					
Customer Service Quality					
The customer service representatives were helpful and knowledgeable.					
The communication channels (e.g., email, chat) were easily accessible.					
I felt valued and respected as a customer when interacting with customer service.					
Convenience of Transaction					

The fintech platform provided convenient methods for conducting transactions (e.g., payments, transfers).					
I found it easy to navigate through the transaction processes on the fintech platform.					
The fintech platform offered a variety of transaction options to suit my needs.					

Ease of Access to Microcredit

Statements	**1**	**2**	**3**	**4**	**5**
The availability of microcredit options meets my needs.					
Microcredit institutions provide adequate support and guidance.					
The interest rates for microcredit are reasonable.					
I find it easy to repay microcredit loans.					

Economic wellbeing

Statements	**1**	**2**	**3**	**4**	**5**
My economic situation has improved since utilizing microcredit.					
Microcredit has helped me manage financial challenges more effectively.					
I feel more financially secure as a result of microcredit assistance.					
Microcredit has enabled me to pursue opportunities for economic growth.					

Small-Businesses Generation

Statements	**1**	**2**	**3**	**4**	**5**
I have witnessed an increase in entrepreneurial activities due to microcredit support.					

Microcredit has provided opportunities for individuals to start their own businesses.					
Small businesses supported by microcredit have contributed to local economic development.					
Microcredit has empowered individuals to become self-employed and create job opportunities.					

Capacity Building and Financial Literacy

Statements	**1**	**2**	**3**	**4**	**5**
I feel more confident in managing my finances as a result of participating in microcredit programs.					
Microcredit institutions offer resources and support for enhancing financial literacy among borrowers.					
I have gained valuable knowledge about budgeting and saving through my involvement in microcredit.					
Microcredit initiatives have helped me develop skills necessary for running a successful business.					

Poverty Eradication

Statements	**1**	**2**	**3**	**4**	**5**
I have observed an improvement in living standards among microcredit beneficiaries.					
Microcredit initiatives have helped individuals break the cycle of poverty.					
Poverty levels have decreased as a result of microcredit programs in my area.					

Microcredit has provided opportunities for marginalized populations to improve their economic status.					

APPENDIX B:

DATASET

Gender	Age	Education	Employme	Household	Geograph	Marital St	The fintec	I encounte	The fintec	I found it e	The fintec	The fintec	The custor	The comm	I felt value	The fintec	I found it e	The fintec	The availa	Microcred	The intere
1	1	3	1	1	1	1	2	2	3	4	4	2	3	5	3	4	2	5	2	5	3
1	1	3	1	1	1	1	3	2	4	4	4	3	3	4	3	5	2	4	2	5	3
1	2	3	1	4	1	1	4	5	4	3	5	5	4	3	5	4	3	3	5	3	4
1	1	1	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
1	1	3	1	2	3	1	2	4	3	5	3	4	4	4	3	4	4	2	2	4	2
2	1	4	1	1	1	1	4	5	4	3	4	3	4	3	3	4	5	4	3	5	4
2	1	4	3	2	1	1	2	4	3	2	4	5	2	3	3	1	3	5	5	3	5
1	2	3	3	2	2	1	4	3	4	4	3	5	4	3	4	3	4	4	4	3	4
1	2	5	1	3	1	1	2	3	2	3	3	4	2	4	2	4	2	4	1	2	4
1	1	3	1	2	3	1	5	4	3	2	1	2	3	4	5	5	4	4	4	4	5
2	2	3	1	2	2	1	4	3	5	4	4	4	3	5	4	5	3	4	5	4	4
1	1	3	1	2	1	1	4	5	3	4	3	4	4	5	4	4	5	5	3	4	4
2	3	3	2	1	2	2	2	4	2	4	2	4	2	4	2	4	2	4	2	2	4
2	3	5	1	3	1	2	4	3	4	4	3	5	4	4	3	5	4	3	3	4	4
1	1	3	1	1	2	3	4	3	4	3	4	5	4	5	5	4	5	4	3	4	3
1	1	1	1	1	1	1	1	2	1	2	1	2	2	2	2	3	2	3	1	2	3
1	4	3	4	4	2	3	3	4	2	4	3	4	3	4	3	4	3	4	3	5	4
1	1	1	1	2	1	2	3	3	3	3	4	3	4	2	4	2	4	2	2	4	2
2	2	3	1	1	2	1	4	5	4	4	3	5	4	3	3	4	4	5	4	5	4
2	1	3	1	1	1	1	3	4	2	3	2	5	3	4	3	2	3	3	2	2	4
1	2	4	2	3	1	1	3	4	4	4	3	4	3	4	3	4	4	3	3	3	2
1	1	3	1	6	3	1	3	5	3	2	4	5	4	3	2	4	5	4	1	2	4
2	2	4	5	1	3	1	3	4	3	4	3	5	4	5	4	4	4	4	4	4	3
1	2	3	1	1	1	1	4	4	5	4	4	5	5	3	5	4	5	5	4	4	3
1	1	2	2	1	1	1	2	3	4	5	4	3	3	4	5	4	3	2	2	3	4
1	1	1	1	1	1	1	2	4	3	2	1	3	4	2	4	5	2	3	2	4	3
1	1	3	1	5	1	1	4	3	5	4	3	4	5	3	4	4	5	4	4	3	5
2	1	3	1	2	3	1	3	1	3	2	3	2	4	2	4	3	2	3	4	2	4
2	2	4	2	1	3	1	2	3	2	4	2	3	2	4	3	4	2	4	2	3	2

I find it eas	My econor	Microcred	I feel more	Microcred	I have witn	Microcred	Small bus	Microcred	I feel more	Microcred	I have gair	Microcred	I have obs	Microcred	Poverty le	Microcred
2	5	4	5	5	2	3	4	4	2	3	3	3	2	3	4	4
3	3	4	3	4	3	4	3	4	3	2	4	3	3	4	5	3
4	5	3	3	5	5	4	5	4	4	5	4	3	4	4	5	3
3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
4	3	2	4	2	4	2	4	1	4	2	4	2	2	4	2	4
4	4	5	4	5	4	3	5	4	5	4	3	5	5	4	3	4
3	4	3	5	3	3	3	5	4	4	5	4	4	5	3	5	5
4	4	5	3	4	4	5	3	4	3	4	4	5	4	3	5	4
2	2	2	4	2	2	4	2	4	2	3	2	4	2	4	2	4
4	5	4	5	4	4	5	4	4	5	4	5	4	3	3	4	4
4	5	5	4	4	5	4	3	5	4	3	5	5	3	4	3	5
5	3	4	5	4	4	5	4	4	4	5	4	5	3	3	4	5
2	2	4	2	4	2	4	2	4	2	3	3	2	2	5	2	1
3	4	3	4	4	5	4	4	5	4	3	4	3	3	4	5	3
5	3	4	4	5	4	5	4	5	2	4	3	4	5	4	4	5
2	2	2	3	2	2	1	3	2	1	2	3	2	2	3	2	3
5	4	5	4	4	4	5	4	5	4	5	3	5	4	5	4	5
4	2	4	2	4	2	4	2	4	2	4	2	2	2	3	4	2
4	5	4	4	5	3	3	4	3	4	4	4	5	4	4	5	4
2	2	4	3	3	2	1	2	2	1	2	3	3	1	2	3	2
2	4	2	2	4	3	4	3	3	3	4	3	4	3	4	3	4
4	5	4	3	2	2	2	4	5	2	4	3	1	4	3	2	3
4	5	4	4	5	5	4	3	4	4	3	4	5	4	4	3	4
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3	2	4	3	2	2	3	2	3	3	2	3	2	3	2	3	2