FinTech Digital Payment and COVID 19

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Abstract- The COVID-19 pandemic has brought about unprecedented changes in the way people transact and make payments. Fintech digital payment solutions have played a critical role in facilitating contactless payments, enabling remote transactions, and providing access to financial services during this crisis. This paper provides an overview of the impact of COVID-19 on the fintech industry and digital payments, highlighting the challenges and opportunities presented by the pandemic. It also examines the role of fintech digital payment solutions in facilitating financial inclusion and promoting economic recovery. The paper concludes that the pandemic has accelerated the adoption of fintech digital payment solutions and has highlighted their importance in the digital economy. As such, there is a need for policymakers to promote the development of an enabling regulatory environment to support the growth of fintech and digital payments.

Indexed Terms- Fintech Digital Payment Solutions, Contactless Payments, Remote Transactions, Financial Services, Challenges and Opportunities, Financial Inclusion, Economic Recovery

I. INTRODUCTION

Financial technology (better known as Fintech) is used to describe new tech that seeks to improve and automate the delivery and use of financial services. At its core, fintech is utilized to help companies, business owners, and consumers better manage their financial operations, processes, and lives by utilizing specialized software and algorithms that are used on computers and, increasingly, smartphones. Fintech, the word, is a combination of "financial technology."

When fintech emerged in the 21st century, the term was initially applied to the technology employed at the back-end systems of established financial institutions. Since then, however, there has been a shift to more consumer-oriented services and therefore a more consumer-oriented definition. Fintech now includes different sectors and industries such as education, retail banking, fundraising and nonprofit, and investment management, to name a few.

Fintech also includes the development and use of cryptocurrencies, such as Bitcoin.

Bitcoin () is a protocol which implements a highly available, public, and decentralized ledger. In order to update the ledger, a user must prove they control an entry in the ledger.

While that segment of fintech may see the most headlines, the big money still lies in the traditional global banking industry and its multi-trillion-dollar market capitalization.

Market capitalisation sometimes referred to as market cap, is the total value of a publicly traded company's outstanding common shares owned by stockholders. Market capitalization is equal to the market price per common share multiplied by the number of common shares outstanding.

The current review paper aimed to comprehend the role of Fintech and Innovative Payment Systems during the COVID-19 pandemic. The findings of the study suggested that the COVID-19 crisis has had an influence on consumers' access to banking products and services in recent years. Furthermore, contactless payments, such as mobile banking and other FinTech innovations, have a significant impact on the nation's economic structural status and growth indicators. Artificial intelligence has also been crucial in achieving technological advancements to mitigate the impacts of the COVID-19 pandemic. Additionally, the rapid development and expansion of digital platforms and digital payments have helped in enhancing financial inclusion by providing safety, accountability, cost-effectiveness, and speedy transactions.

ICTCThe Information and Communications Technology (ICT) industry has grown exponentially in the previous two decades, becoming a defining feature of countries economic progress. The popularity of mobile phones, the major development in the electronics industry, evolving consumer expectations, and the availability of financial assistance from authorities and policymakers have all contributed to the rise of the ICT Industry. As a result, ICT prepared the way for a transformational change in the financial industry

In advanced countries, the financial services industry offers a range of functions, namely enabling business and monetary processes. Throughout crisis situations, financial institutions are recognized as one of the most crucial promoters of socioeconomic resiliency. ICT has changed the financial business in the past few decades, allowing for easier and more creative delivering services. Accessibility to financial resources is made easier for vulnerable groups, especially in developing nations, due to digital finance advancements. Financial technology (Fintech) provides innovations to the financial sector and customers that make operations less economical, more efficient, and reliable. FinTech innovations have received $40 billion in worldwide investments from banking firms and technology companies in 2019This surge in investments in FinTech and enhanced use of digital payments systems can be attributed to the ongoing COVID-19 crisis which has disrupted the Worlds economy to a massive extent and has forced policymakers to identify potential solutions to revive the global economy. The COVID-19 pandemic has spurred financial inclusion – driving a large increase in digital payments amid the global expansion of formal financial services. This expansion created new economic opportunities, narrowing the gender gap in account ownership, and building resilience at the household level to better manage financial shocks, according to the Global Findex 2021 database.

As of 2021, 76% of adults globally now have an account at a bank, other financial institution, or with a mobile money provider, up from 68% in 2017 and 51% in 2011. Importantly, growth in account ownership was evenly distributed across many more countries. While in previous Findex surveys over the last decade much of the growth was concentrated in India and China, this year's survey found that the percentage of account ownership increased by double digits in 34 countries since 2017.

The pandemic has also led to an increased use of digital payments. In low and middle-income economies (excluding China), over 40% of adults who made merchant in-store or online payments using a card, phone, or the internet did so for the first time since the start of the pandemic. The same was true for more than a third of adults in all low- and middle-income economies who paid a utility bill directly from a formal account. In India, more than 80 million adults made their first digital merchant payment after the start of the pandemic, while in China over 100 million adults did. Two-thirds of adults worldwide now make or receive a digital payment, with the share in developing economies grew from 35% in 2014 to 57% in 2021. In developing economies, 71% have an account at a bank, other financial institution, or with a mobile money provider, up from 63% in 2017 and 42% in 2011. Mobile money accounts drove a huge increase in financial inclusion in Sub-Saharan Africa.

II. REVIEW OF LITERATURE

2.0 ROL (1)

Collaboration of digital payment usage decision in COVID-19 pandemic situation: Evidence from Indonesia

John TampilPurbaa, Sylvia Samuela andSidikBudionoa (2021)

Financial technology Financial technology (FinTech) is a system that is designed to assess and produce finance. Globally, FinTech has gained notice as one of the demanding technologies that can allow companies to engage productively and efficiently in disruption 4.0 (Wonglimpiyarat, 2017). Broadly, analyze technological transformation, especially in Financial technology that is quite challenging, as can be seen from a traditional point of view that only centers on products, prices and supply / demand (Iman, 2020). The term of FinTech comes from "financial" and "technology" can be express in widespread relation of latest and used of things involved of technologies that set up an activity of financial service (Gomber et al., 2017), or cross function department consists of finance, management of technology, and management of innovation (K. Leong, 2018). With this background, the disclosure of financial technology has led to "financial service disintermediation" together with the new regulation to protect customers and venture capitalists (Giudici, 2018; Guo & Liang, 2016). Instantly, Financial Technology newbies can mitigate the intermediary cost and minimize the capital requirements that normally are associated with conventional banking facilities (Iman, 2020). The use of huge amounts of data analytics and information of science has affected how data is detained, exercised and analyzed, which in return mitigate the cost heavily (Giudici, 2018; Iman, 2020). FinTech is one of the technologies that would revolutionaries many industries, especially the transportation industry. In addition, FinTech has expanded speedily in distinct circumstances, most likely contributing to new ideas of product and service in applying ultramodern technology (Alt et al., 2018; Gomber et al., 2017; Iman, 2020). Nevertheless, the supervision and scope of delivery of the goods and services by FinTech companies increased broadly. Scholars added additional new descriptions and perspectives about financial technology (Gomber et al., 2017; Wonglimpiyarat, 2018), while other studies focus on interaction and the ecosystems (Iman, 2020; Kang, 2018; I. Lee & Shin, 2018; C. Leong et al., 2017; Thompson, 2017). Furthermore, some studies carefully review FinTech specifically on the adoption and spreading of financial technology goods and services on customer boundaries, however very few studies specialized on the production side. There is a review about digital e-commerce finance surrounding almost every product, services, technologies, and infrastructures that allow each individual and firms to obtain the function of online payment, and any other facilities that can be finished by arm length without visiting directly in person to the service provider (Ozili, 2018). Alternatively, after extensive review, one of the authors define the designation of FinTech as established on weak foundation and encounter from semantic issues (Schueffel, 2017). Borrowing from (Dorfleitner et al., 2017) stated that the FinTech industry can be divided into four categories such as financing, asset management, payments and other FinTech. FinTech that belongs to payment only on mobile payment Fintech. "Mobile Payment" is explained as several functionality offered by smart phone technologies to finalize the payments, online virtual bank, e-Wallets, and peer to peer transfer in exact time. Continuously, FinTech startup revolution in India and the rest elsewhere in Asia. Likewise, mobile payment has been expected as one of the new business models in sequence to implement payment solutions for customers (Xue et al., 2021). Therefore, FinTech lies beneath innovations, deepening appreciation and technological development (Dranev et al., 2019).

ROL(2)

Fintech is a portmanteau of financial technology that describes an emerging financial service sector in the 21st century. Broadly, the tern "financial technology" can apply to any innovation in how people transact business, from invention of digital money to double-entry bookkeeping. This study uses a literature review study from the years before 2023 research data from international journals. Based on the research results, and opinions of previous researchers that expected to bring additional insights references and ideas. This chapter also covers the results found in both the domestic field (India) and global field ,thus the rest of the world on how the pandemic made an impact on Fintech.

2.1Domestic

According to research, Fintech is an innovation that provides new products, applications and business models that can impact the provision of financial services and the service providers (Le, 2021) .One of them is mobile payments ,which have changed the way people see mobile usage .It is no longer limited communication entertainment and Internet surfing. No direct contact or cash is required to trade or exchange value, and mobile payment have changed the way customers and merchants trade. Fintech is a trend that significantly changes and improve service quality, Especially financial industry which includes specific's financial transactions (Daragmet et al 2021)

The pandemic COVID-19 has led a substantial effect in speeding up the trend towards a cashless society everywhere ,hence financial technology transactions have intensified and the main objective of consumers is to reduce the use of cash. They are exploring alternate contactless payment techniques, without any physical intervention to execute this electronically (Abu Daqar et al 2021). Individuals have been warned not to utilise the use of cash as much as possible since coronavirus remains alive and the disease will continue to spread. This has encouraged bankers to take imaginative and new payment options such as e-wallets into consideration (Alwi et al 2021). (Saxena 2020) In his article on "How is cloud computing making difference in Banking, Financial services and Insurance sector", explains that a rise in online banking activity has insisted the lenders adopt digital transformation where cloud computing has lapsed an important role in this strategy of the lending sector. Cloud computing has driven growth in this sector and apart from reducing costs it improves client relationships and flexibility. (Faggela 2019) It is a I market research "Artificial Intelligence in India-opportunities, Risk and future potential" explains the overview adoption of AI in India .Emerj Research team visited India and discussed with experts from the Government of India and heads off large Fintech/ IT company working in the space including Amazon, Reliance ADA, AIG ,Infosys ,TCS, NVIDIA. Objectives to understand the level of AI adaption by Indian banks and businesses were formulated during the discussion. This was to identify opportunities and risks in AI by Indian enterprises and offers Indian Government and Fintech companies recommendations for effective use of AI to promote efficiency in India. In this article "Post COVID Strategy: Banking Customer Experience Trends of 2021" (Finextra 2021) explains important facts that affect customer experience and behaviour post COVID pandemic which has led to a shift from physical to digital transformation. COVID has triggered a peak in the intensification of important online banking trends in 2021 and this trend reports explain how digital perspective is expanding, empowering an experience based in a culture and improving customer experience in finance with an emotional connection and teaming up with Fintech and Technology companies.

2.2 Global

(Washington 2020) the Fintech Market has continued to help expand access to financial services during COVID 19 pandemic, particularly in emerging markets with strong growth in all types of digital financial services except lending according to a joint study by the World Bank, the Cambridge Centre for Alternative Finance and the University of Cambridge's Judge Business School, and World Economic Forum. Access to affordable financial services is critical for poverty reduction and economic growth. Access to, and use of basic financial services can raise incomes, increase resilience and improve lives of the poor especially women. Fintech innovations are helping reduce cost of providing services, and making it possible to reach more people and reducing the need for face to face interaction, essential for keeping up economic activity during the pandemic. Fintech Has shown its potential to close gaps in delivery or financial services to households and firms in emerging markets and developing economies (Caroline Freund 2020) .

Looking Into global research, the pandemic began as a shock to public health and the medical system and the nature of the pandemic led nations to undergo voluntary behavioural changes. During the desolate period COVID- 19 ,many people's activities were now a must to do from home via the internet, Laptops and smart phones because all activities outside home were limited, making Fintech an ample and optimistic opportunity to encourage people to switch to technology-based financial services. The restrictions imposed caused an economic slow down in some entrepreneurship countries from 2020 to 2021, especially the developing countries and meanwhile digital entrepreneurship activities experienced a sharp increase (Bacq et al 2020 ; Shareef et al 2021 ; Ratten 2020) .With help of Fintech 24/7 it is easier to have access To efficiently adaptive financial services and it leads to economic growth by reducing cost and saving time hence it is an affordable and very effective solution everywhere. Apart from different industries affected around the world with COVID-19, the pandemic also hit many Fintech companies and majority of them are still trying to adapt to new ways of business. Fintech is not only a reference for innovation related to finance and creative things. In banking programming, monetary creativity and portable financial applications are excellent examples of progress (Nair et al 2021) .The emergency of the pandemic had an effect on new mechanical trends for companies and also the global financial industry and introduced new research in the financial industry (Goodell 2020) .For example, several researchers have analysed the effects of COVID-19 on financial markets in portfolio diversification (Corbet et al 2020; Yarovaya et al 2021) .

A Fintech research conducted by (Alber and Dabour 2020) examined then countries as objects, including the United States ,United Kingdom, United Arab Emirates, Saudi Arabia, Nigeria, Italy, South Korea ,Japan and India from March to June 2020 .The research was conducted to investigate opportunities for Fintech in the period of the pandemic were social distancing was required .The results showed that contactless payments have redefined payment methods during the COVID-19 since it is the only option available as COVID hit the banking sector enabling The world to continues its business and adhere to guidelines of staying at home and maintaining social distancing. Looking into other sectors, the impact of COVID-19 on transportation occurs in Indonesia. The study by (Purba et al 2021) show how digital technology works with online transportation used by several large companies in Indonesia used to meet consumer needs during the large scale social restrictions.

III. RESEARCH METHODOLOGY

3.1 Introduction

This research has been undertaken to assess the impact of Fintech during COVID 19 and to also see the pattern of how people's behaviour changed towards technology due to the pandemic. The research is also directed towards assessing the extent of how different economies all over the world were affected by the pandemic and how Fintech has played its role in this situation. Therefore, using general terminology, the statement of the problem could be generalised as a detection of impact of Fintech during COVID 19.

Objective of the study

- To analyse the impact of Fintech during COVID 19

Scope of the study

The study is based on research work, which was conducted to study the impact of Fintech during the pandemic. This research was undertaken for a specific period of approximately 2 months. Results obtained from this study were all out of pure research work which was carried out from both primary and secondary sources hence the results are reliable and less biased. With all the data collected from the research, we were able to see people's perspective regarding the pandemic and how Fintech was helpful to them .

3.2Methodology

Methodology in research is defined as the systematic method to resolve a research problem through data gathering using various techniques , providing an interpretation of data gathered and drawing conclusions about the research data. There are two main types of research methods : qualitative research and quantitative research whereby qualitative research focuses on measures of types and may be represented by a name , symbol ,or a number code whereas quantitative research is about numeric variables , e.g. (how many ;how much; or how often).

3.2.1 Qualitative vs Quantitative technique

Quantitative research was held in order to satisfy this study and acquire the results we needed. The purpose of using quantitative research was to attain greater knowledge and understanding of the social world through the exploration of numerical patterns .That way it would enable us to gather a range of numerical data to obtain more accurate results and make better conclusions on our study.

3.3 Data collection method and tools

The method adopted for data collection required for this research is the Survey Method. Thus, a questionnaire was prepared consisting of simple questions and was distributed among 100 respondents. The Survey Method proved to be instrumental in framing the respondent profile and also in realising their opinions on the topic Fintech and COVID 19.

Research Technique: Descriptive Research
Method Adopted for Data Collection: Survey Method

3.3.1 Sampling technique
Sample Size: 100
Sampling Design: Simple Random Sampling
Sample Unit :Students and other individuals under working class

3.3.2 Sample Selection
There are several different sampling techniques available, and they can be subdivided into two groups thus probability sampling and non-probability sampling. In this study, simple random sampling was chosen to carry out the research. Simple random sampling is a sampling technique in which each member of a population has an equal chance of being chosen ,through the use of an unbiased selection method Each subset in the sample is given a number and then the sample is chosen by a random method. We chose this method of sampling because it would help us make generalisations about the population and it is a simple method to use with less bias.

3.3.3 Tools of data collection
The main tool used for collecting the data for this research is the questionnaire. The questions in the questionnaire were arranged in a logical order with personal information in the beginning followed by questions related to Fintech and COVID 19 and then questions regarding the people's perspective regarding the impact of Fintech during the pandemic. Likert scale was used mainly while preparing the questionnaire. The questionnaires were to be filled by 100 respondents who we had selected from the target population , thus students and those who are under working class. This was done by distributing the questionnaire through social media platforms which were convenient for them , e.g. for respondents

Primary Sources of Data
- Direct access to the respondents
- Telephonic conversations with the respondents
-Emails and Google forms

Secondary Sources of Data
-Internet websites
-Newspapers and articles
- Journals and reports

3.4 Plan of analysis.
The data that we collected through the questionnaires was processed and systematically arranged into tables to get a clear picture of the results. Statistical tools like percentages were used to analyse the data. To make it easy to interpret the data, we used graphs and pie charts in order to create a neat look of the results . The graphs and charts showed the clear picture of the answers to each of the questions in the questionnaire. Based on these, it was easy to analyse the data and make a final conclusion on the study.

3.5 Reference period
The research was conducted for approximately 2 months during the period of
September – November

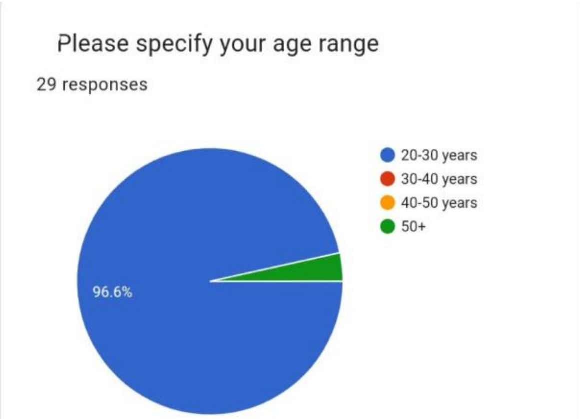
Limitation of the study
- -Biased response: There was a scope of producing biased responses on the part of the respondents to the questionnaires. Some of the respondents were biased with the questions asked on the questionnaires
- -Lack of quick access to information: The study needed a lot of research work to be done and a lot of reading as well to compare the results on different economies in our field of study. The research ended up being time consuming because not all the information was available and it took time to keep on looking for more data for the study to have fruitful results.
- -Limited to a particular audience: The research was limited to people who stay in India ,especially Bangalore and the outlets were not put in the target population , the reason being that we wanted it to be easy to reach out our respondents though we might not have gathered enough information as we needed.
- -Financial Constraints: As this is an academic research and allocating high budgets to research conducted by students is not feasible, this research did suffer from financial constraints and compromise had to be made in areas such as travelling cost, printing costs etc.•
- -Sampling constraints: The sample size chosen for this research was 100. However, a higher sample

size would have resulted in getting a clear picture regarding various factors mentioned in the questionnaire.

- -Reluctant respondents: Due to certain factors like lack of time, disinterest etc. the respondents were reluctant to fill the questionnaires. This reduced the chances of having a higher sample size and it also delayed the research since frequent follow ups had to be done in order to make some of the respondents cooperate.
- Time constraints: Since this research was to be completed within a set deadline, it suffered from time constraints. Evidently, more time would have resulted in more effectiveness of the research.

IV. DATA ANALYSIS AND INTERPRETATION

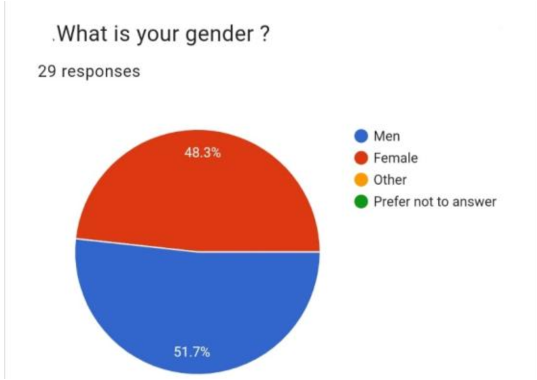
4.1 Demography of Respondents



Analysis: From the above chart it shows us that most of the respondents are within the age range of 20-30 years making it 96.6%. A percentage of 3.4% of responses was attained from those above the age of 50.

Inferences: From the results achieved it showed us that people in the age range of 20-30 years are the ones who are making use of Fintech and have greater knowledge about it on how it works.

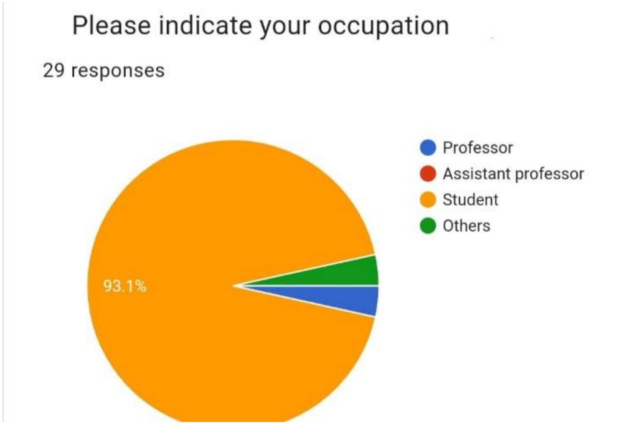
4.1.2 Gender Demography



Analysis: The chart above shows more responses were earned from men with a percentage of 51.7% whilst women gave a response of 48.3% .

Inferences: The results from the above chart show us that make respondents had more interest in the research topic of Fintech and COVID 19.

4.1.3 Occupation Demography



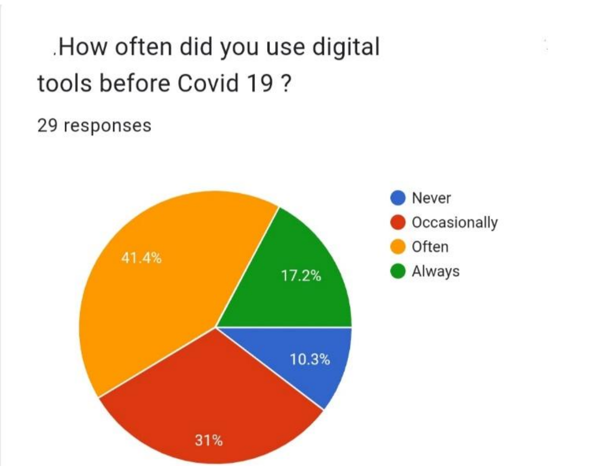
Analysis: From the above chart it is shown that 93.1% of the respondents are students and as for the rest lie under the occupation of professors.

Inferences: The results attained from the chart above simply show us that students are the ones in the market who have a greater impact on our research topic.

4.2.1 Respondents experience with Fintech before COVID 19

Analysis: The results show that 41.1% of people used Fintech before the pandemic hit often whilst 31% used Fintech occasionally. 17.2% is the percentage of those who used Fintech all the time before COVID 19 and 10.3% never used it.

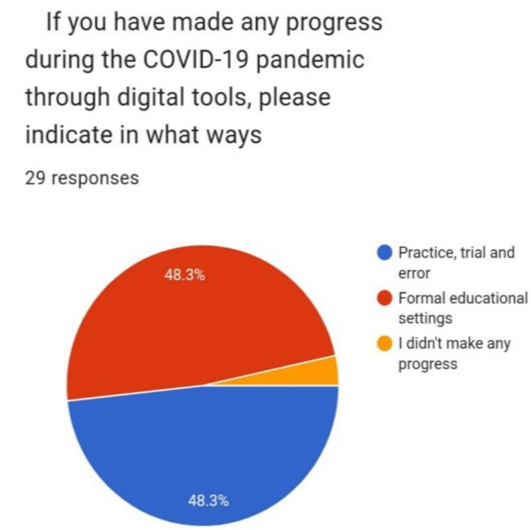
Inferences: We can depict that a lot of were satisfied with the use of Fintech technology since a greater percentage of those who were making us of it was attained from those who were always using it and those who used the technology occasionally. The little percentage from those who never used it showed us lack of awareness and need of the FinTech since the pandemic had not been in the picture yet.



4.2.2espondents review on their progress with Fintech during the pandemic

Analysis: The above chart shows us that a percentage of 48.3% made progress with the use of Fintech through formal educational settings same as those who progressed through trial and error method. Only a few people responded that they had not made any progress.

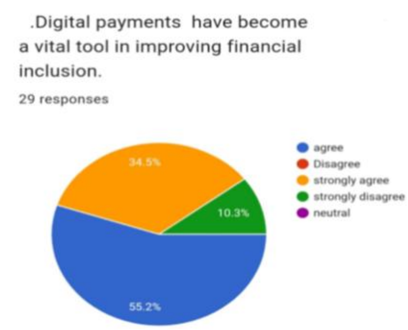
Inferences: The result helped us to assess that indeed Fintech is really helpful in day to day activities of people especially those who are working or learning since majority progressed in awareness of this technology through these sectors.



4.2.3 Respondents review on digital payments help in finance

Analysis: The chart above shows that many people agree that the use of digital payments is helpful in the sector of finance whilst a percentage of 34.5% disagreed and 10.3% strongly disagreed.

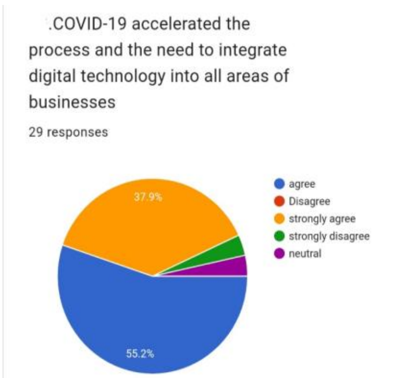
Inferences: The results show us that majority of the respondents agree with the fact that indeed digital payments are a very important tool in improving financial inclusion though unfortunately a certain percentage do not share the same perspective



4.2.4 Respondents review on how COVID 19 has created the need for digital technology

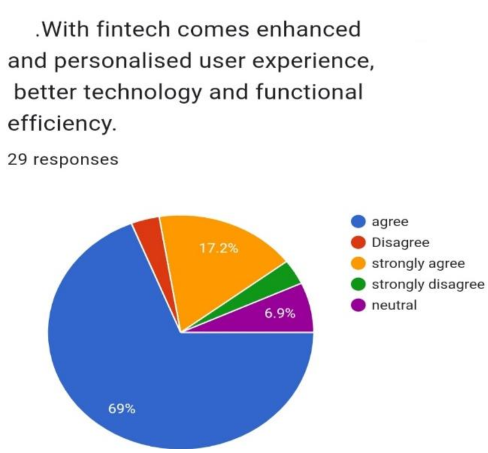
Analysis: From the chart above it shows that most people agreed with the fact that COVID 19 accelerated the need to use digital technology into all areas of business with a percentage of 55.2% whilst others strongly disagreed with a percentage of 37.9%.

Inferences: The results gave us an overall conclusion that due to the negative impact of the pandemic, many people saw the need to make use of digital technology for their safety. Some may have not been affected in their business activities judging from the percentage of those who strongly disagreed with the need of digital technology during COVID 19.



4.2.5 Respondents knowledge on Fintech benefits
Analysis: From the above chart it's shows the results of 69% of those who agreed with the advantage of Fintech mentioned complimented by a percentage of 17.2% of people who also strongly agreed. Others who were neutral gave a result of 6.9%.

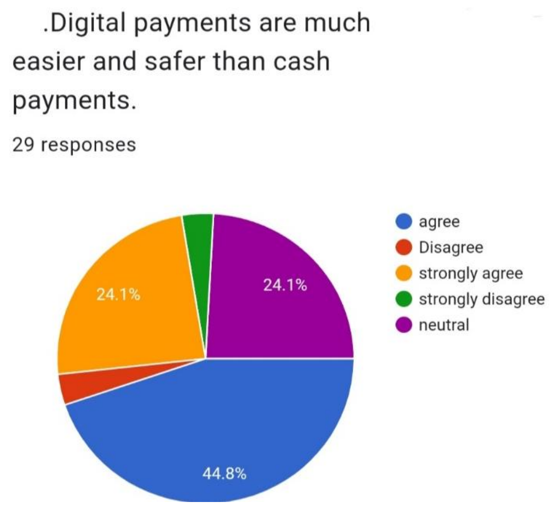
Inferences: We concluded that from the results which were shown from the chart, majority had more awareness on the use of Fintech and how it is beneficial to our lives judging form the percentage of respondents who agreed and also saw the need to spread more awareness on Fintech to such people who lied under the neutral percentage.



4.2.6 Respondents review on digital payments vs cash payments

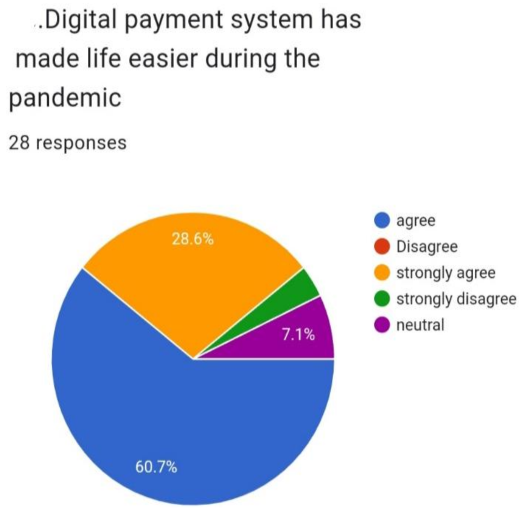
Analysis: The above chart shows results of 44.8% who agreed that digital payments are indeed better than making use of cadhv complimented by a percentage of 24.1% of people who strong agreed. A percentage of 24.1% were neutral.

Inferences: From the chart results it showed us that most people prepare the use of digital payments to cash whereas others prepare using both at the same time judging from the percentage attained from neutral



4.2.7 Respondents review on how Fintech has helped during COVID 19
Analysis: From the above chart, 60.7% was attained from people who agreed that the use of digital payments made lives easier for during the pandemic and 28.6% strongly agreed. A percentage of 7.1% were neutral whilst the rest strongly disagreed.

Inferences: The chart results showed us that people were in agreement that during the pandemic using digital payments helped the way of living. The main goal during the pandemic was to maintain social distancing and use of digital payments helped people carry out transactions without creating crowds. Business people managed to carry out their activities indoors hence



CONCLUSION

With all being said, we see that most activities that tragically changed during the pandemic came back to adapting to various digital payments methods i.e Digital payment ; Financial technology; Mobile financing and Mobile banking. Relying on technology became a necessity since living the normal way in the society was now an impossibility since everyone had to oblige to social distancing regulations for safety purposes. The chapter also reviews that not only people's daily lives were affected by the pandemic ,but also businesses as well ,especially in their business usual routine patterns and with the help of technology it brought back a lot of companies back on track.

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