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C O N T E N T S

Empowering Institutions and Clients: Unleashing Financial Innovation

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Abstract

The paradigm shift that has occurred in the financial industry is a direct result of recent advancements in the fields of finance and analytics. Customers of financial institutions have become more familiar with a wide range of possibilities and difficulties because of this scenario. Within the scope of this research, an attempt is made to comprehend the concept of financial innovation and how the alterations brought about by innovation affect both the clients of financial institutions and the institutions themselves. The entire investigation relies on past data. The research will concentrate on three core areas: the management of risk, the decision-making process about investments, and the provision of financial service and goods. The focus of this paper is to establish the framework for further inquiry into the ways in which releasing financial ingenuity accelerates institutions and empowers customers in the financial sector. According to the research findings, innovations within the finance discipline have significantly affected the financial industry. New financial goods and services, better methods of handling risks, and new ways of looking at investment strategy selection are all direct results of this. Additionally, new perspectives have emerged. However, this has also resulted in the emergence of new challenges for the firms that provide financial services and the customers they serve, particularly an increase in the level of complexity and the chance of risk.

Keywords: Financial Innovation, Financial Institutions, Risk Management, Financial Products and Services, Investment Decision-Making.

Introduction

The financial industry has been significantly affected by digitalization in recent years, as demonstrated by the emergence of "FinTech" (Zavolokina, Dolata and Schwabe, 2016a). In the age of digital transformation, fintech has effortlessly integrated into our daily lives (Cumming, Johan and Reardon, 2023).The term "fintech" is an amalgamation of the words "finance" and "information technology" (Zavolokina, Dolata and Schwabe, 2016b; Ojiaku et al., 2024). By illustrating the revolutionary impact of recent fintech advancements on the financial services industry, it underscores the importance of established businesses to adjust to changes in the industry (Gomber et al., 2018). Financial institutions have successfully expanded their presence into new sectors, reduced expenses, improved operational efficiency, and generated innovative new services (Leong, 2018; Ozili, 2018). Many of the recent developments that have taken place in the industry of finance are denoted as "financial innovations," which is a phrase that is used to refer to a wide variety of these developments. A lot of recent shifts in the financial sector may be traced back to developments in financial services. Because of these innovations, banks and other financial organisations are now better able to meet the ever-evolving expectations of their customers by providing better solutions to the problems that they face (Allen, Mcandrews and Strahan, 2002; Rajan, 2005; Gomber et al., 2018). In spite of this, new threats and challenges have materialised as a direct consequence of advances in the financial industry. Because of these dangers and problems, there have been substantial repercussions for financial institutions as well as for the customers that these institutions are tasked with serving (Frame and White, 2012; Gomber et al., 2018; Lee and Shin, 2018a). Academics and finance practitioners share a keen interest in the impact of new financial products and services on existing businesses and customers. Through an examination of secondary data, the aim of this paper is to explore the impact that technological advancements in the financial industry have had not only on businesses but also on the clients of such businesses. The investigation will centre on three crucial aspects: the management of risks, the process of making investment decisions, and financial services and products. What are the main areas of financial innovation, how have financial institutions and clients been affected by financial innovation, and what are the implications of financial innovation for institutions and clients are the research questions of this study? By answering these research questions, this study looks at the problems and potential of financial innovation, along with how financial institutions can use it to improve services and meet customer needs.

In the first section, we looked at the bigger picture of this study and the questions we set out to address. Section 2 discusses an analysis of the relevant work on financial innovation and its related aspects, as well as the

research gap. The research approach employed in the work is discussed in Section 3. The idea of financial innovation is explored in Section 4. In addition to outlining the many forms of financial innovation, this article analyzes and explores the three main areas of financial innovation: investment decision-making, financial goods and services, and risk management. Further, this section has also covered the effects and implications of financial innovation on institutions and clients. In Section 5, we talk about a discussion that came about because of the previous section's analysis. In Section 6, I draw attention to the study's shortcomings and offer some suggestions for future research. Future research in this field will greatly benefit from the study's findings, and the study's findings will add to financial innovation's impact on financial sector literature.

Review of Literature

As we have seen, financial innovation has changed the financial industry. This gives financial institutions and their clients both new opportunities and challenges. However, I was unable to locate a single research that dealt with all of the facets of financial innovation at once. However, there have been attempts to demonstrate some of the findings that the various research scholars have gathered, such as financial innovation (new goods and services), investment decision-making and risk management are as follows:

Financial Products and Services

Several studies have been conducted to study various elements of the effects that innovations in the financial sector have on institutions and the customers they serve. Much of the available literature focuses on how financial innovations have affected these types of goods and services. There have been tremendous shifts in the financial sector during the past few decades (Franklin. and Anthony, 1997), characterised by the emergence of novel services, products, and technologies in the financial sector (Arner, Barberis and Buckley, 2015). Because of technological progress, new goods and services in the financial sector have materialized, i.e., peer-to-peer lending, digital payments, and robo-advisory services. Other examples include securitization, derivatives, and digital trading platforms. These developments have allowed financial institutions to provide services that are more efficient and customised to each individual customer's demands (Chiu, 2016; Guo and Liang, 2016; Dabrowski, 2017; Gomber et al., 2018; Anshari, Almunawar and Masri, 2022). For instance, the advent of electronic trading platforms has resulted in decreased transaction costs and more transparency in financial markets. This has made it possible for investors to trade securities at reduced costs and with greater simplicity (Allen, Mcandrews and Strahan, 2002; Claessens, Glaessner and Klingebiel, 2002). As a consequence of the financial sector's constant innovation process, both possibilities and challenges have emerged (Gomber et al., 2018).However, difficulties with product complexity, information transparency, and consumer protection have also arisen due to the creation of innovative goods and facilities(Ahmed, 2009; Anagnostopoulos, 2018).

Risk Management

Research has also been done looking at how the introduction of new financial technologies impacts risk management. Technology advancements in the finance sector, such as algorithmic trading and machine learning (Hendershott et al., 2021), Value at Risk (VaR) and stress testing (Martinez Peria et al., 2001). The capacity of financial institutions to handle risk has increased as a result of new risk management strategies that have emerged in recent years (Leo, Sharma and Maddulety, 2019). An example of a statistical method is the VaR, or value at risk, technique, which calculates the maximum possible loss of a financial instrument or investment could incur over a specified time horizon with a defined level of confidence (Martinez Peria et al., 2001). The term "stress testing" is used to describe the process by which a financial organisation assesses the potential impact of extreme events on its balance sheet (Huang, Zhou and Zhu, 2009). Data privacy and cyber security threats have expanded in response to these innovative methods (Ahsan et al., 2022). One such example is the rise of new threats like flash crashes and market manipulations due to the popularity of algorithmic trading (Bhupathi, 2010; Lange, Lenglet and Seyfert, 2016; Dalko, V. and Wang, 2020). Financial institutions must therefore continuously improve their risk management procedures if they want to stay up with the financial market's dynamic character.

Investment Decision-Making

An additional area of inquiry focuses on the impact that financial innovation has on the investing decisions that individuals make. New investment alternatives, such as cryptocurrency and alternative investments, have emerged as a consequence of financial innovation, posing a challenge to conventional investing strategies (Lerner and Nanda, 2020; Xi, O'Brien and Irannezhad, 2020; Li et al., 2021). The emergence of new investment strategies, such as smart beta and factor investing, has made it possible for investors to improve the degree to which their portfolios are diversified and to earn higher returns (Fredrik Kristoffersson, 2017; Becker and Reinganum, 2018). The goal of smart beta approaches is to beat the conventional market capitalization-weighted indices by investing in a portfolio of companies that is differentiated from the benchmark by certain factors,

such as value or momentum (Siracusano, 2014; Silvasti, Grobys and Äijö, 2021). Concerns have been raised regarding quantitative investment strategies and the influence they may have on the financial markets (Joyce et al., 2011). Some academics, for example, have claimed that the growing popularity of passive investing may contribute to a loss in market efficiency and liquidity (Turner and Sushko, 2018; Anadu et al., 2020). So, it's important for financial institutions, and investors must carefully consider the potential rewards and drawbacks of employing new investment strategies.

Research Gaps

There are not many studies that use secondary data to examine how financial innovation affects businesses and consumers. There needs to be a more comprehensive look at the effects of financial innovation, as many previous studies have only covered certain topics. This research utilises secondary data analysis to fill the knowledge gap about how financial innovation affects companies and their clients.

Research Methodology

This research is undertaken to better understand the concept of financial innovation and its discourse in academic literature. As we explore the realms of financial innovation, institutional dynamics, and client empowerment, we navigate this research journey guided by the rich tapestry of secondary data sources that serve as the foundation for our investigation. The study has taken the secondary data on FinTech survey conducted by EY in 2019. This survey, which was conducted from February 4 to March 11, 2019, comprises 27,103 interactions with digitally active adults in 27 global markets, including the United States, United Kingdom, Australia, Brazil, China, India, and Argentina. Furthermore, this conceptual study investigates how financial innovation affects the clients of financial organizations. The data sources encompass scholarly journals, industry reports, and other relevant publications.

Financial Innovation

Many forms of financial services have begun to leverage fintech, or financial innovations made possible by digital technology. While financial technology breakthroughs are nothing new, (Dermine, 2016). The word "fintech" is shorthand for "financial technology," which encompasses a wide variety of innovations aimed at enhancing both the delivery and consumption of financial services by businesses (Mention, 2019). Nevertheless, Arner et al., (2015), identified and described three distinct phases of the emergence of FinTech. The traditional financial services sector is referred to as FinTech 1.0, while the digital sector is referred to as FinTech 2.0, and FinTech 3.0 denotes the subsequent iteration of financial technology. He stressed the fact that technology improvements play a big role in the financial services industry, which is highly dependent on those advancements. Market volatility, new laws, and technical developments are the key forces pushing the financial services sector towards innovation (Laeven, Levine and Michalopoulos, 2015; Chiu, 2016). Financial institutions have benefited from innovation in the financial sector since it has helped them boost profits, broaden their customer base, and lower operational expenses (Lee and Shin, 2018a; Ozili, 2018). The subsequent paragraphs will discuss the the various forms that financial creativity i.e., innovations in the financial sector can take.

Types of Financial Innovation

Based on our newfound knowledge of the term, we can categorise financial innovations into four types: product, process, organisational, and marketing innovations (Atalay, Anafarta and Sarvan, 2013a; Lee, Lee and Garrett, 2019). Because there are four sub-types of innovative

financial practices, it is necessary for us to have an individual comprehension of each one. The process of developing new financial goods or improving upon those that already exist is referred to as "financial product innovation" in the banking and finance business. This is done to meet the ever-evolving requirements of clients. Developing new financial products or altering current ones to better meet changing customer needs is referred to as product innovation. The creation of innovative processes that improve the effectiveness and efficiency of financial services is known as process innovation. Changes to the structure, culture, or management procedures of financial institutions are a part of organisational innovation, which aims to make them more competitive. Utilizing fresh marketing tactics or distribution methods to advertise financial products and services is known as marketing innovation (Atalay, Anafarta and Sarvan, 2013b). The meaning of these various forms of financial breakthroughs can be made more clear by looking at their applications in the actual world. The different kinds of financial innovations that have come out in the past few years are listed in Table 1.

Table 1: Financial Innovation Examples

Innovation	Description
Mobile banking	Services provided by banks that are accessible via mobile devices and so make banking easier.
Crowd funding	A technique of financing that facilitates the raising of capital via numerous, comparatively small investments from a large number of people.
Crypto currencies	Cryptographic techniques are used to ensure the safety of digital currencies, which therefore make it possible to conduct decentralised transactions.
Robo-advisors	Financial advisory and portfolio management services provided by algorithm-based digital platforms.
Peer-to-peer lending	Online platforms that facilitate the connection between borrowers and lenders, bypassing traditional financial institutions.
High-frequency trading	Trading that is done by computer. Algorithms are used to analyse and make trades quickly, allowing for quick gains.
Machine learning	Investing decisions can be made using machine learning algorithms to analyse market trends and patterns in historical data.
Social trading	Investors can use social trading platforms to follow and replicate the investment tactics of other successful traders.
Blockchain Technology	Payments, contracts, and other areas can all benefit from distributed ledger technology, which allows for the transparent and secure recording of transactions involving numerous parties.
Quantum Computing in Finance	Maximizing the use of quantum computing to address intricate financial issues, such as risk assessment and portfolio optimization
Generative AI	Generative AI, represents a significant advancement in artificial intelligence technology that has been rapidly adopted in the financial sector due to its enhanced utility.

Source: Author Compilation

Financial innovation encompasses a wide variety of products and services, mobile banking (Al-Jabri and Sohail, 2012); Crowd funding (Rossi, 2014); Crypto currencies (Crosby et al., 2016); Robo-advisors (Dyba and Gernego, 2019); Peer-to-peer lending (Yuliya Komarova Loureiro and Laura Gonzalez, 2015); High-frequency trading(Goldstein, Kumar and Graves, 2014); Machine learning (Shah, Isah and Zulkernine, 2019); and Social trading (Berger, Wenzel and Wohlgemuth, 2018; Glaser and Risius, 2018), Blockchain Technology ((Gutlapalli, 2016; Mills et al., 2016; Natarajan, Krause and Gradstein, 2017; Li and Kassem, 2021), Quantum Computing in Finance ((Egger et al., 2020; Bova, Goldfarb and Melko, 2021; Griffin, Sampat and Griffin, 2021; Herman et al., 2022; Naik et al., 2023) and Generative AI (Shabsigh and Boukherouaa, 2023). The table identifies the particular innovation and gives a brief overview of each. Examples of product innovation include crypto currencies and robo-advisors, where new financial products have been developed to meet shifting consumer needs. Peer-to-peer lending is an example of process innovation, where a new process has been developed to connect borrowers and lenders directly, and bypassing traditional financial institutions. Examples of organisational innovation that have led to the widespread adoption of computerised trading in the financial sector include high frequency trading and social trading. Blockchain technology signifies a technological innovation, introducing decentralized and transparent transactional systems. Similar to cryptocurrencies, blockchain technology revolutionizes traditional financial processes by providing secure and efficient methods of recording and verifying transactions. It demonstrates product innovation by presenting a new financial infrastructure that satisfies the requirement for transaction transparency, security, and decentralization. Quantum computing in finance uses quantum mechanics to optimize risk assessment and portfolio management, a technological breakthrough. Furthermore, GenAI has the potential to exacerbate existing risks and introduce new ones, which could impact the stability of the financial sector. Financial technology has improved, enabling more complicated analysis and decision-making. Quantum computing could change financial decision-making and meet modern finance's growing complexity. Finally, mobile banking promotes financial services via mobile devices, demonstrating marketing creativity.

These illustrations show how new ideas in the financial sector have resulted in game-changing products, procedures, and approaches that have benefited both the financial sector and its customers. Certain places across

the world are being recognised as innovation hotspots as innovation in finance has increased. The Global Financial Centers Index (GFCI 34) , the thirty-four version, came out on September 28, 2023. GFCI 34 ranks 121 financial centers around the world and rates their future competitiveness. Policymakers and people who make business decisions can use the GFCI as a useful guide. Based on the Global Financial Centers Index (GFCI 34), Table 2 lists the top international financial innovation centres along with regional rankings for each centre, along with the rank and ratings as per the GFCI 32 .

Table 2: Top Global Financial Innovation Hubs

Centre	GFCI 34 Rank	GFCI 34 Rating	Region	Centre	GFCI 32 Rank	GFCI 32 Rating	Region
New York	1	763	North America	New York	1	760	North America
London	2	744	Western Europe	London	2	731	Western Europe
Singapore	3	742	Asia/Pacific	Singapore	3	726	Asia/Pacific
Hong Kong	4	741	Asia/Pacific	Hong Kong	4	725	Asia/Pacific
San Francisco	5	735	North America	San Francisco	5	724	North America
Los Angeles	6	734	North America	Shanghai	6	723	Asia/Pacific
Shanghai	7	733	Asia/Pacific	Los Angeles	7	722	North America
Washington DC	8	732	North America	Beijing	8	721	Asia/Pacific
Chicago	9	731	North America	Shenzhen	9	720	Asia/Pacific
Geneva	10	730	Western Europe	Paris	10	719	Western Europe
Seoul	11	729	Asia/Pacific	Seoul	11	718	Asia/Pacific
Shenzhen	12	728	Asia/Pacific	Chicago	12	717	North America
Beijing	13	727	Asia/Pacific	Sydney	13	716	Asia/Pacific
Frankfurt	14	726	Western Europe	Boston	14	715	North America
Paris	15	725	Western Europe	Washington DC	15	714	North America
Luxembourg	16	724	Western Europe	Tokyo	16	713	Asia/Pacific
Boston	17	723	North America	Dubai	17	712	Middle East & Africa
Zurich	18	722	Western Europe	Frankfurt	18	711	Western Europe
Amsterdam	19	721	Western Europe	Amsterdam	19	710	Western Europe
Tokyo	20	720	Asia/Pacific	Geneva	20	709	Western Europe

Source: The Global Financial Centres Index 32 & 34 page 4

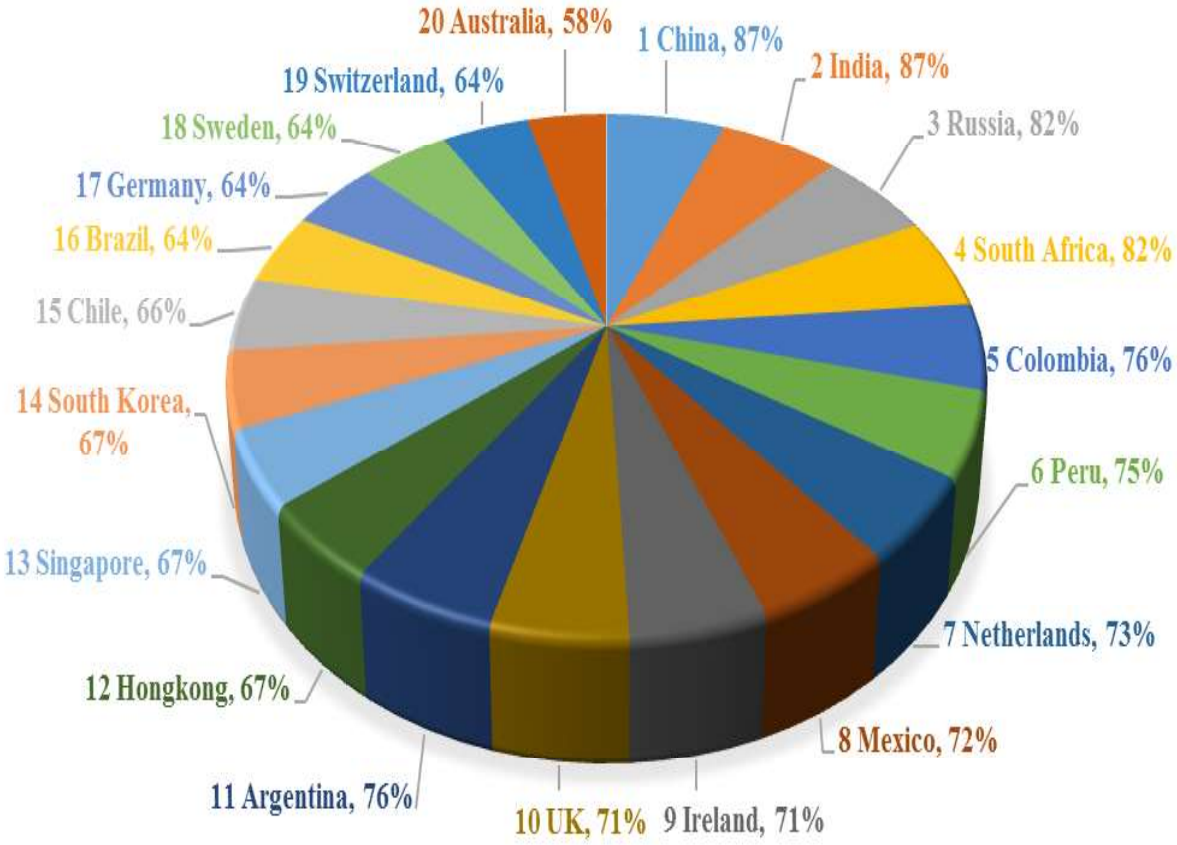
These financial innovation centres attract entrepreneurs, venture capitalists, and existing financial institutions. The Global Financial Centers Index (GFCI) ranks financial centers around the world by how competitive they are. There are many factors that go into the scores, such as human capital, the development of the financial sector, infrastructure, business environment, reputation, and a general measure (Wardle and Mainelli, 2023).

The table shows that New York retains its position as the top financial centre in the world with a score of 763. London, Singapore, Hong Kong, and San Francisco have retained their second, fourth and fifth positions with scores of 744, 742, 741 and 735 respectively. Los Angeles and Shanghai have slipped down to sixth and seventh positions with scores of 734 and 733, respectively. Washington DC, has taken the lead with 732 points, and it shifts to the eighth position instead of the 15th position as it was in the GFCI 32 ranking. In place of Shenzhen and Paris, Chicago and Geneva have emerged in the top ten position. Chicago and Geneva are placed in ninth and tenth positions with 731 and 730 points, respectively. The financial centres are categorised into five regions, i.e., Asia/Pacific region; Eastern Europe; North America; Western Europe and Central Asia; and the Middle

East and Africa. According to GFCI 34, seven centres in Western Europe rank among the top 20.With an additional rating point over Hong Kong, Singapore maintains its lead in the region. Additionally, Shanghai is among the top ten globally. Prominent Chinese centres maintained their positions in the rankings, whereas numerous centres within China experienced upward movement, whereas five centres outside of China experienced declines of ten places or more in the rankings. In the current edition of the index, Washington, DC, ranked alongside, Chicago, Los Angeles, New York and San Francisco among the top 10 globally (Wardle and Mainelli, 2023). The high rate of financial technology adoption by firms and consumers in these hubs is one of the main forces behind financial innovation (Mazambani and Mutambara, 2020; Carbó-Valverde, Cuadros-Solas and Rodríguez-Fernández, 2022; Muganyi *et al.*, 2022).

How the different countries adopted global financial technology is reflected in Figure 1, which thereby shows the global fintech adoption rate by country.

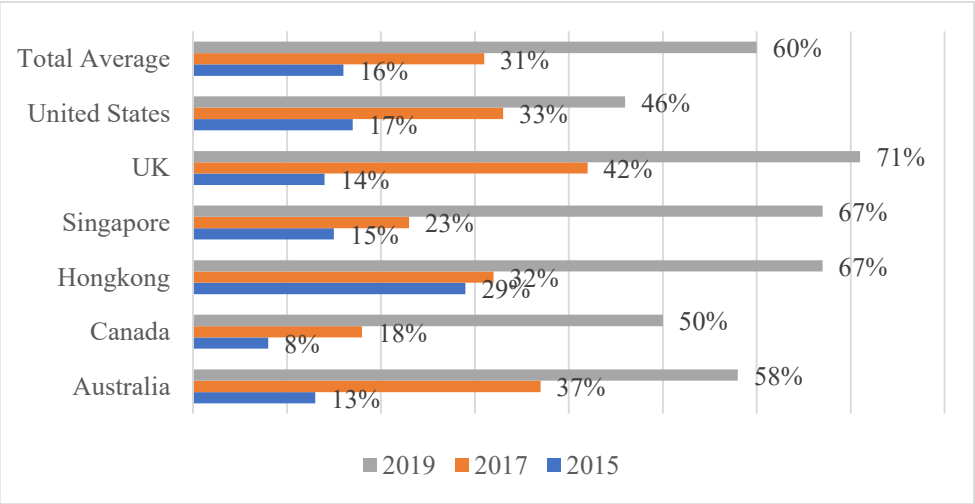
Figure 1: Fintech Adoption Rate (%)



Source: EY Global FinTech Adoption Index 2019

The figure 1 reflects the proportion of digitally perceptive customers who have utilised no less than two financial technology products in the preceding year. EY performed a global assessment on FinTech adoption trends across markets, demographics, and time. The study interviewed consumers in 27 markets across the globe, i.e., Hong Kong, India, Germany, Canada, Chile, Luxembourg, France, Belgium, China (mainland), Argentina, Brazil Australia, Colombia etc. (Ernst & Young, 2019b). The adoption rates of fintech are highest in India and China, at 87%, and lowest in South Africa and Russia at 82%. The figure shows that many emerging economies have high FinTech adoption rates, indicating a strong demand for financial innovation in these countries (Zalan and Toufaily, 2017; Kowalewski and Pisany, 2020) . At 73%, the Netherlands has the greatest rate of FinTech adoption among developed economies. Other established economies, i.e., the United Kingdom, Ireland, and Germany, also have relatively high FinTech adoption rates, indicating that financial innovation is gaining momentum in these nations as well. Because of their advanced financial infrastructure, significant Asian economies like Hong Kong, Singapore, and South Korea have comparatively high adoption rates for fintech (Sedik et al., 2019). Figure 2 displays the results of an EY comparison of the adoption of FinTech in six different major economies.

Figure-2 FinTech Adoption Patterns in Six Major Economies



Source: Global FinTech Adoption Index 2019 Page 8

The six markets surveyed by EY— the United Kingdom, Canada, Australia, the United States Hong Kong, and Singapore —had an adoption rate that increased from 16% in 2015 to 31% in 2017 and 60% in 2019. In general, the data indicates that FinTech is becoming more and more popular worldwide, with rising adoption rates in both emerging and developed nations. Risk management and financial innovation are covered in the discussion that follows.

Risk Management

The increased complexity and potential risks associated with new financial products and services have made effective risk management a top priority for financial institutions (Franklin. and Anthony, 1997). When it comes to addressing the complex risks that innovative financial products pose, conventional risk management techniques might not be sufficient. Due to the increased complexity and risk that are linked with these new financial innovations, it is necessary for financial institutions to adapt their strategies towards risk management (Arner, Barberis and Buckley, 2015; Gomber et al., 2018). As a direct consequence of this, financial institutions were required to adjust their risk management strategies so that they could remain competitive in the new climate (Guo and Liang, 2016; Gomber et al., 2018). The development of novel risk assessment methods, big data analytics for risk identification, and blockchain technology for increased security and transparency are examples of financial innovation in risk management (Dicuonzo et al., 2019; Etemadi et al., 2021; Lee et al., 2021).

Another way that financial institutions are enhancing their capability for risk management is through the use of artificial intelligence (AI) and machine learning (ML) (Kshetri, 2021; Pandey and Sergeeva, 2022; Sharbek, 2022). Specifically, both (Chitra and Subashini, 2013; Thennakoon et al., 2019) have pointed out how ML algorithms might aid in the detection and prevention of fraud by analysing patterns in financial transactions. Financial institutions are enhancing their risk management practises by, among other things, implementing ML or machine learning and AI. For instance, ML systems can help in the fight against fraud by analysing patterns in transaction data. The same is true for the specialist risk management advice that AI-powered chatbots can provide to their customers (Malali and Gopalakrishnan, 2020).

In order for financial institutions to keep up with the fast speed of change brought on by new financial innovations that raise both complexity and risk, these institutions have been required to make adjustments to the risk management strategies they employ. Financial organisations have used a variety of risk management approaches to efficiently manage the risks involved with new financial products and services. Examples of such techniques are presented in Table 3, including diversification (Hitt, 1994); hedging (Koonce, Lipe and McAnally, 2005; Ahmed, 2015); stress testing(Martinez Peria et al., 2001); value-at-risk (VaR) (Jorion, 1996; Benninga and Wiener, 1998); collateral management (Domanski and Neumann, 2001; Shaik, 2014); and Scenario analysis (Schoemaker, 1991). By assessing potential losses, keeping an eye on collateral that counterparties have pledged, and estimating probable losses, these techniques help to mitigate credit risk and reduce risk exposure. As innovative financial services and products continue to emerge, financial establishments will need to continually reassess and adapt their risk management strategies to ensure effective risk management.

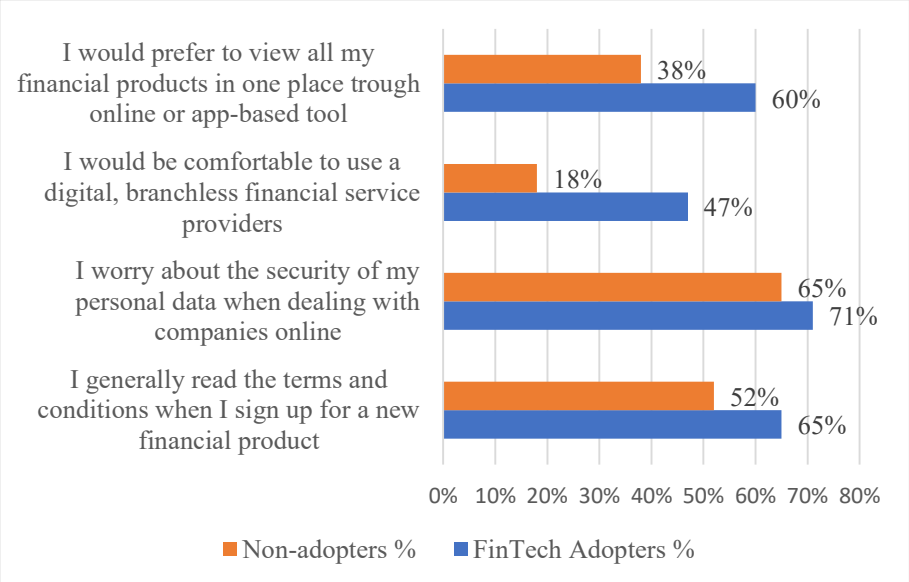
Table 3: Examples of Risk Management Techniques in Financial Institutions

Technique of Risk Management	Description
Diversification	To lessen the impact of potential losses, diversifying investments across several industries, geographies, and asset classes
Hedging	Making use of financial tools to mitigate possible losses caused by unfavourable pricing changes
Stress testing	Evaluating the impact of hypothetical adverse events on a portfolio or institution
Value-at-Risk (VaR)	Calculating the probability of a portfolio's value decreasing throughout a specific time frame while maintaining a degree of certainty
Collateral management	Monitoring and valuing collateral pledged by counterparties to mitigate credit risk
Scenario analysis	Analyzing how various economic outcomes could affect financial decisions

Source: Author Compilation

Challengers are using technology and agility to deliver personalised and accessible FinTech solutions, altering financial services. Companies must understand FinTech adopters' preferences and security concerns to succeed in this changing landscape. Financial institutions must understand client risk management attitudes to stay up with innovative financial products and services (Ernst & Young, 2019b). As the world of innovative financial goods and services is constantly evolving, it is essential for financial institutions to understand client sentiment around risk management (Allioui & Mourdi, 2023; Y. Li, 2024; Shrestha et al., 2024). Our research reveals the dynamic interaction between digital financial innovation and risk perceptions. We found that financial institutions must instantly change their risk management procedures to address the challenges and uncertainties of new financial goods and services, but it also illuminates clients' changing tastes and fears. "Exploring Perspectives: Personal Risk Management in the Era of Digital Finance" (figure 3) graphically depicts various perspectives. Specifically, it shows that those who have adopted FinTech are more likely to use digital financial services, but they are more worried about the safety of their personal data than those who have not. This contrast highlights the fine line that banks and other financial organisations must walk between being innovative and being too cautious if they want to keep their customers' trust (Adarbah and Al-Badi, 2023; Uchenna Innocent Nnaomah *et al.*, 2024). Navigating this ever-changing market, resolving customer concerns, and encouraging increased acceptance of digital financial services can be achieved by financial institutions that leverage technology and agility to provide personalised and accessible FinTech solutions (Jabbar, 2023; Kayode, 2023).

Figure 3: Exploring Perspectives: Personal Risk Management in the Era of Digital Finance



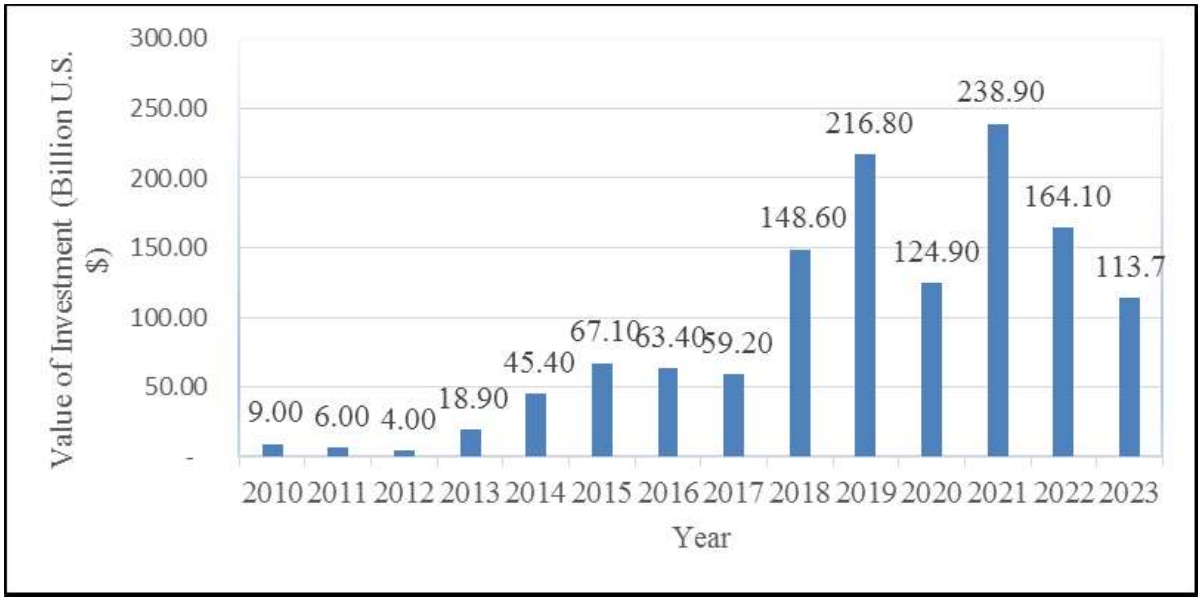
Source: Global FinTech Adoption Index 2019 page 11

Investment Decision Making

An integral part of effective risk management is forming well-informed investment strategies, in addition to recognising and eliminating potential threats (Errico, L., & Sundararajan, 2002).Risk management in financial institutions requires investment decision-making. Financial institutions must carefully consider investment risks and profitability. Hence, financial institutions must integrate risk management and investment decision-making to make an informed decisions that support their long-term goals while controlling risks (Cumming and Hirtle, 2001). Financial institutions can't achieve this integration without fast and reliable data on market developments, economic conditions, and new risks (Armstrong, 2005; Rajan, 2005). Big data analytics and AI have simplified the process by which banks and other financial organisations collect, analyse, and interpret massive volumes of data in order to better inform their investment and risk management choices (Seddon and Currie, 2017; Gomber et al., 2018).Financial institutions must thoroughly evaluate possible investments in order to assess their profitability and potential hazards (Errico, L., & Sundararajan, 2002). Financial institutions make investment decisions using a variety of methodologies, such as fundamental and technical analysis, and quantitative modelling (Schoemaker, 1991; Jackson, 2010).Furthermore, financial institutions must be informed of the most recent financial developments and how they affect investment decisions (Gomber et al., 2018; Lee and Shin, 2018b; Ozili, 2018). Exchange-traded funds, i.e., ETFs, which give investors an understanding of a wide range of asset classes, are one example of the new investment opportunities and products that have been made possible as a direct result of innovations in the field of finance (Kosev and Williams, 2011).

The introduction of new financial innovations has, on the other hand, resulted in the emergence of new dangers, such as the possibility of manipulating markets and of systemic risks (Rajan, 2005; Arner, Barberis and Buckley, 2015). KPMG reports that between 2017 and 2018, global investment in the financial technology sector increased to an all-time high of $111.8 billion (Agarwal, 2019; Everhart, 2020). Figure 4 in the following section, however, shows global fintech investment from 2010 to 2023. This underlines how important it is to research the impact that financial innovation has on the decision-making process regarding investments. The long-term sustainability of financial institutions depends on effective risk management, which is a crucial aspect of investment decisions. Adopting diverse investment decision-making processes and staying abreast of the latest changes in the financial industry can help financial institutions lower their risk exposure and increase their returns on investment.

Figure 4: Global FinTech Investment



Source: Statista

Effects of Financial Innovation on Financial Institutions

The world of finance has seen the effects of innovation, both good and bad. Efficiency gains, profit maximization, and cost reductions are all good outcomes of recent financial innovations (Laeven, Levine and Michalopoulos, 2015; Beck et al., 2016). Automation of financial institutions' processes, reduced reliance on physical infrastructure, and expanded geographic reach have all been made possible by innovations in the financial sector (Loo, 2018; Boot et al., 2020; Chang, Luo and Chen, 2020; Hamledari and Fischer, 2021).

Financial innovation has also enabled financial institutions to offer their clients brand-new goods and services that are customised to meet their changing needs(Lee and Shin, 2018b). New risks and challenges have emerged as a result of financial innovation. These include heightened vulnerability to market fluctuations and diminished safeguards for consumers (Turan, 2015; Vučinić, 2020).

Effects of Financial Innovation on Clients

Innovations in the financial sector have substantially helped consumers by expanding their access to these services, making them more convenient, and broadening the scope of those who can take use of them (Durai, T., & Stella, 2019; Rasheed *et al.*, 2019; Shofawati, 2019). Financial innovation has enabled clients to access financial services that were earlier unavailable to them, for example online payment systems and mobile banking (Gomber *et al.*, 2018; Mhlanga, 2020; Palmié *et al.*, 2020). Financial innovation has also reduced the costs of financial services, making them more accessible to low-income clients (Damodaran, 2006; Yawe and Prabhu, 2015). Novel financial products and services have transformed the industry. New financial products and services carry risks.

Implications of Financial Innovation For Institutions and Clients

Changes brought about by financial innovation have produced both new opportunities and new perils for the financial services industry and its customers. New financial services and products, such as peer-to-peer lending, internet banking, and mobile payments, have been produced as a result of financial innovation, increasing client accessibility and convenience (Lee and Shin, 2018b; V. I. Soloviev, 2018; V. Soloviev, 2018; Vučinić, 2020). As new financial instruments and trading methods have evolved, financial innovation has increased the complexity and potential danger of the financial system (Merton, 1995; Rajan, 2005; Chiu, 2016). Financial institutions are faced with the challenge of managing these risks while maintaining profitability and meeting the needs of their clients. Moreover, financial innovation has also had an impact on investment decision-making processes. The problem for financial institutions is how to deal with these threats without impairing their income or customers' happiness (Cumming and Hirtle, 2001).

Findings and Conclusion

The study "Impact of Financial Innovation on Institutions and Clients: A Secondary Data Analysis" aimed to look into the impact of financial innovation, engineering, and analytics on financial institutions and their clients, with a particular emphasis on financial services & products, risk management, and investment decision-making. According to the results of the study, the financial sector has been considerably influenced by technological advancements in the financial sector. This can be accomplished through developing innovative financial goods and services, refining existing risk management strategies, and modifying the decision-making processes pertaining to investments. On the other hand, this has resulted in difficulties, such as an increase in complexity and the possibility of risk, for both the financial institutions and the customers of such organisations. Strategies such as diversification, hedging, stress testing, value-at-risk (VaR), and collateral management are discussed in the paper as means of mitigating the risks inherent in the introduction of new financial services & products. The outcomes of the study emphasise the advantages of financial innovation not just for financial institutions but additionally for the customers of those firms. It also indicates that in order for FI's i.e., (Financial Institutions) to continue operating successfully over the long term, they will need to adapt to these technological advances in order to continue to serve the specific requirements of their customers.

Limitations and Future Scope

Limitations: Since the study had included secondary data as per the requirements of the topic. Due to its reliance on secondary sources, this study might have overlooked some vital consequences of financial innovation and other aspects of it.

Future Scope: Financial innovation's influence could be better understood with a quantitative approach and a deeper analysis of cultural and regulatory differences. Future studies could also look into how financial innovation affects consumer behaviour, financial literacy, and the ethical implications of this innovation. This study has shed light on financial innovation, engineering, and analytics' difficulties and prospects, despite its limits. The results show how significantly financial innovation has affected the financial sector and how financial institutions must adapt to these developments in order to meet client expectations and continue to be viable. The study also provides a framework for quantitative research and a deeper understanding of cultural and regulatory variations that affect financial innovation adoption and effect.

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