

EVOLUTION OF TECHNOLOGY WITHIN THE UK RETAIL BANKING SECTOR

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### Abstract

With the advancements, Technology is continually immersed in the daily routines and has revolutionised significantly Retail Banking in the UK. The technology is enhancing the service delivery of the banking sector worldwide. The study aims to demonstrate the emergence and developments of technological advancements in Retail Banking in the UK by using the “Diffusion Theory of Technology”. The study relies on using both quantitative and qualitative research designs, mixed methodology to examine how technological advancement has influenced Retail banking in the UK. Data is obtained from secondary sources considering reliable and authentic journals, websites, news, and published documents. The quantitative data gathered is analysed through statistical tools such as SPSS and qualitative data obtained is analysed through content analysis.

The findings exhibit that technology has notably improved and enhanced the operational activities of Retail Banking in the UK. The banking operations are now conducting speedy, efficiently, and effectively around the UK. With the adaption of the technology, better quality service delivery is provided. Technology has made possible the accessibility of banking services within the comfort area of the user. The study recommends that proper training in using and adopting technology must be provided to the employees to avoid their resistance to the adaption of the technology. The findings of this research are limited to the geographical area of the UK.

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## Chapter I: Introduction

The impact of technology is becoming and extend its usage in everyday life. With the advancing nature of technology, the pattern of connection between the organisation and individual is changed. Technology brings a revolution in many as well as in the different sectors of the organisation. According to Jain (2018), the advancement of technology is to enhance the skills and capabilities of the user. The increasing factor to enhance the skills of the user will increase the education level, which means there is a positive association between the usages of technology. Technology also advancing the different sectors of the UK (North et al. 2013). In the current era, everyone can communicate and create connections with another one through the internet. The usage of such technologies boosts the services of many internal and external users of the internet in everyone's life. Most of the organisation productivity will increase if they practised the advancement of technology within the organisation to sustain the position.

The different researchers will examine the impact of technology on the retail banking sector of the UK (Schmiedel et.al, 2012). And most of the operations are based on technological advancement. They also have limited connectivity between the user and banking sector within the UK. In that case, the role of technology is crucial in this situation to operate effectively in the market. Technology allows businesses to make better decisions and enhance their performance by enabling them to more flexible. In today world technology is widely used in which the competition between the competitors is high. Most of the organisations effectively used technology, but some of the organisations are not implementing a good technology-oriented decision for the organisation (Davies et al., 2010). As the current study will focus on the advancement of technology in the retail banking sector of the UK, the study will focus on the importance of technology in the organisation that can affect the success of the country.

Moreover, the advancement of technology gives an organisation to streamline its business operation, increase productivity and enhancing the operation to gain a competitive advantage in the marketplace. Different sectors opting for advancement in technology to increase productivity and the market reputation within the market. The implementation of technology enhances the operation of most of the industry.

### 1.1 Background of the Study

As technology advancement is increasing and extend its usage in everyday life. The impact of technologically oriented organisations can increase the evolution of technology within the different sectors of the UK. According to Tsoukatos and Mastrojianni (2010), UK retail banking is one of the key players in the UK economy that contribute a huge amount of revenue to the retail banking sector of the country. The nature of the bank is to provide financial

services to individuals, organisations, and adopting different technology services to compete in the market. The main concern of the financial system is to provide a range of services to increase productivity and also enhancing the economy of the country. With the advancing nature of technology within the UK, the banking sector is the main contributor to the economic wellbeing of the country. Therefore, technology has a significant impact on the success of the different sectors in which retail banking is one of them. That also affects the retail banking sector of the UK economy. With the advancement of technology, productivity, adaptability also has influenced the banking sector of the UK (Sharma, 2011). If they cannot implement the effective use of management, the organisation faced serious challenges that need to be considered the organisation. Most of the organisations effectively used technology, but some of the organisations are not implementing a good technology-oriented decision for the organisation

Moreover, with the evolution of technology in retail banking, there is a number of factors that have influenced the evolution of the banking sector within the UK these are the economics of scale, economic drivers, and interaction with the demand-side driver. The evolution of the technology within the UK retail banking is the main factor that implements effective technology. Although there is a considered to be vast but beneficial impact technology in the different sector of the country. The advancement in technology in the field of learning and practical existence can also influence the effective economic outcomes that can affect the overall performance of the banking sector in the UK. The different researchers will examine the impact of technology on the retail banking sector and also on the decision or operation of the business they were operating. The impact of information technology can itself increased the evolution of the technology in the retail banking sector of the UK (Mocetti et.al, 2017). There is a number of a study conducted by different researchers to examine the advancing nature of the technology in the banking sector of the UK.

## **1.2 Problem Statement**

With the advancing nature of technology, it is the main concern in the modern period, in a current period most of the organisations are technological oriented. With this advancement in technology, new opportunities and chances are always there to support and solve the issue that is faced by the organisation. The current research will also focus on determining the evolution of the technology within the banking sector of the UK. Most of the research will conduct on base on the development of retail banking and the contribution of technology into the sector, therefore the current study will address the evolution of the technology within the retail banking system in the UK.

### 1.3 Research Aims

By increasing number of technology-oriented organisation, most the organisation faced a severe challenge while operating in the market. The specific aim of this study is to demonstrate the evolution of technology within the UK retail banking sector. By increasing number of technology-oriented organisation, most the organisation faced a severe challenge while operating in the market. With the advancing nature of technology, the banking sector of the UK needs to be improved their operations and services within the marketplace?

### 1.4 Research Objective

Every research study has some purposes and goals that need to consider while they implement any new changes in the organisation. Research objectives are the specific research activities that need to be considered by the researcher (Hunt et.al, 2018). As information technology advancing the learning pattern and also the structure of most of the organisations, the current Study will able to fill up the research gap that evolution of the technology within the UK retail banking sector. Following are the research objectives for the current research that are described below.

- To establish the conduct of retail banking services in the UK before the introduction of the technology
- To identify the motivation behind the introduction of technological innovation in the area
- To evaluate the impact of technology in the UK banking sector
- To describe how new technologies continue to impact the sector

### 1.5 Research Question

By considering the aims and objectives in mind researcher designed the following research question that is described below.

1. How was the conduct of retail banking services before the introduction of the technology?
2. What is the motivation behind the introduction of technological innovation in retail banking?
3. What is the impact of technology in the UK banking sector?
4. How do the new technologies continue to impact the banking sector of the UK?

### 1.6 The rationale of this Study

Due to advancements in technology, most organisations are technically oriented and shifted towards the technology world in which they prefer to operate effectively in the market.

This specific study will address the role that retail banking in the UK has played in offering further opportunities for the development and advancement of technology. Due to expanding nature of the banking sector, this question is quite possible to answer that how technological advancement has impacted the overall performance of the organisation. It is a fact that the growth and success of the banking sector in the UK have been enabled by the availability of technology in the organisation (Wruuck and Speyer, 2013). The high competition between the banking sectors in the UK is the main issue that this study is focused on. The growth of technology and its implementation within the organisation enhances productivity (Ravi, 2018). The growth of information technology (IT) practices and methodologies has allowed the banking sector to operate effectively in the market.

In the technologically oriented world, most of the organisation want to operate normally. They are trying to find alternate ways on how they can be efficient and effective, as the world is becoming more and more technology-oriented and organisations are also changing their adaptability and flexibility to gain a competitive advantage in the market. As the current study focuses on the advancement of technology in the retail banking sector of the UK, this study also highlight the importance of technology in the organisation that play a significant role in success or failure of the organisations.

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## Chapter 2: Literature Review

### 2.1. History of Retail Banking services

Retail banking is described as the provision of services to the consumers by the bank rather than to companies, other banks and corporates. These retail services include savings, personal loans, credit or debit cards, mortgages and transactional accounts. The services are concerned with the individual customers only.

Reflecting back to the history of retail banking sector, the temples were primarily used to keep their jewels and coins in the basement as a safe place that was guarded and secured by temple workers and priests. Moreover, the historical records also reveal that temples would also loan money besides securing money (Fletcher, 2008). However, Romans extricated banking from the temples for the first time and formalized within a building. Adding to this, Julius Caesar after his takeover, allowed bankers to confiscate land in lieu of loan payment that eventually crumbled the Roman Empire but some banking institutes were in the form of papal bankers. As the banks occasionally explicit contracts and charters, the royal powers started taking loans which led to unnecessary extravagances, arms races and costly wars with other neighboring kingdoms. The records shows that before 1640, there was no such term “banking” was used. Although temples were used as early as 2000 B.C yet, people were not aware of proper banks because they would not exist at that time. Following this, “Bank of Venice” was established in Italy in 1157 to finance the monarch in wars (Hildreth, 1837). But modern banking began only after 1640. Thereafter, banks began to establish in many states i.e. India, Egypt and other countries. This lead to the evolution of banks and they started providing more services to individuals like personal loans which further led to mortgages and debit card services. However, the banks were never advanced since the beginning because of the lack of technological advancements. With the passage of time, increasing services and success became a reason of their popularity. Meanwhile, technological innovations got the attention of banking sector because of diverse features and increased development. Now, the implementation of technological advancements and innovations in retail banking sector has improved the operational efficiency of banks (Bátiz-Lazo and Woldesenbet, 2006). However, it is necessary to understand the conduct of retail banking sector before the technological advancements.

### 2.2. Conduct of retail banking sector before technological advancements

Retail banking is a service-oriented organisation focusing on the client money and its management. The satisfaction level of the customer is the basic concern of the banking industry and they are strongly influenced by the quality of services delivered by the banks to their

effective client. According to a study Shanmugam et. Al (2015), Conducted by they discuss in their research that before the advancement in technology most of the banks concerned are to deliver quality products and services to the customer. In many of the studies it is found that before the advancement in technology bank records their daily transaction to maintain the ledger, datasheets were created for the record of the customer information. Much retail banking industry in the UK has affected by the number of challenges and risks they faced, in which the pre-technological phased is one of them. According to the study conducted by Mas (2009), most of the banks record their daily transaction with the customer and the investor. Banks also calculate they are earning quarterly basis on saving accounts manually and then paste it on the ledger of the bank for future used. All the accounts within the UK banks were maintained in a hard form to record effectively ledger for the development in the UK banking sector.

#### 2.2.1. *The motivation behind technological innovation in era*

Before the industrial revolution, that eventually brought technological advancement, people would not aware of the technology which was the reason of intense labor work, excessive time consumption, and slow processing. With the passage of time, man invented machines and new means to manufacture and process the things. As food supply has developed from hunting and foraging to domestication of animals and crop cultivation. Similarly, technological innovations shifted the movement style which developed from moving things over earth surface to barrows then to trucks and trains and then to planes and ships that can move around the world in one day. Likewise, the writing developed to printing which changed the distribution of information. Weaponry changed from arrows and bows to gunpowder and then to military power and shaped political power. Steam power turned to electricity and then petrol engines (Li and Piachaud, 2019).

#### 2.2.2. *Drivers of technological advancement*

All the inventions and technological advancements had certain drivers that were the motivation behind these innovations. The major driver is the labor work. This is clear that in ancient times, due to lack of technology, people would spend a lot of time and effort in their tasks to fulfill their basic needs of food, shelter and child care. The people having proficiency in a certain area would perform the task manually. Among the professionals there includes but not limited to the potters, barbers, arrow makers, basket makers, merchants, weapon makers, record keepers, silversmiths, butchers, goldsmiths, water carriers, stonemasons, estate workers, fishermen, tanners, weavers, farmers, furniture makers, boat builders, bakers, metal workers, beer brewers, leatherworkers, bread makers, spinners, weavers, clothes makers and jewelers (Harris, 2020). All these professionals would perform their task manually without machines

and technology. This would take a lot of time because of slow processing. Keeping in view these factors, man started working to overcome these challenges that eventually brought revolution in the form of technological innovation. Comparing with the old methods and processes, labors can now save their time and effort to utilize in some other purpose with fast working. This plays a key role in the economic development contributing to the economy of country ultimately.

### **2.2.3. Drivers of technological advancement in retail banking**

Like other sectors, retail banking sector also adopted many technological innovations to improve the operational efficiency which eventually changed the whole structure. According to a survey, 39% of retail banking executives say that greatest impact of technology has reduced the cost.

A study on the evolution technology identifies that in the competitive market, the distribution strategies that are concerned with how to deliver the products to consumers and how to communicate with them, can provide the significant competitive advantages to institutions in marketplace. Thus distribution provides the differentiation basis instead of core service itself (Devlin, J.F., 1995). This is the major driver of technological advancements in retail banking services and led to the development of telephone and home retail banking systems.

### **2.3. Impacts of technology in the UK banking sector**

With the innovation of technology, the UK retail banking sector expands its services. The Competition and Markets Authority (CMA) investigates the various impacts of a set of innovations on the retail banking sector of the UK. The innovation of mobile banking, digital wallet technology, aggregators and bank inbox significantly affect the market. These services primarily focus to provide services to the customers. Campanella and Del Giudice describe the role of technological advancement in the banking sector of the UK in 2017. The research study describes that the significant changes in technology affect the banking sectors. The study investigates the impact of trends in information and technology, business intelligence and management strategies in the banking sector. In the economic development of the country, banking plays a significant role. The innovations in technology help enterprises to manage the financial challenges more efficiently (Campanella et al., 2017).

Banking provides a strong linkage with the economic system of a country. Due to the recent developments in technology the retail banking sector of the UK enhances its services. There exists a wide range of activities in the banking sector due to various financial services that affect the performance of the employees in the banking sector. Technological

advancements such as E-banking services provides various transformations into the global banking sector. It provides various benefits including the inline banking services that help to manage the customer's data and transactions more efficiently (Gupta et al., 2017). As electronic banking services has been famous and easy for computer users but due to the exponential growth of the internet user it provides various benefits to the customers.

### 2.3.1. *Mobile banking*

The use of mobile banking provides a range of innovations in the retail banking sector of the UK. Mobile banking services were started in the 19<sup>th</sup> century as they offered SMS services to customers. With the technology innovation, mobile banking provides account checking details, money and payment transfer opportunities, ATM services and loan requirements to the customers. This application has become a standard in the banking industry and is accessible to all banks of the UK. Mojtahed and Peng in 2013 describe that mobile banking enhances future banking opportunities. The wireless and mobile computing technologies positively affects the banking services that are provided to the customers. The research aims to investigate the use of technology and factors that provide positive banking services to young customers. The study concluded that the marketing strategies to improve the retail banking sector should focus on the efficient use of mobile banking (Mojtahed et al., 2013). There exists a positive impact of mobile banking technology in the retail banking sector. The impact of mobile banking depends on the development of mobile services and their extent to the customers. It provides sustainable financial awareness to the people who visit banks once a week. As shown in Figure 1, a survey was conducted by the Financial Conduct Authority of the UK in 2015, it shows there exist positive impacts of mobile banking and texting alerts on

the banking sector and customer level of satisfaction. Moreover, the customers can deposit money in the accounts with low balance easily and they can get alerts if the balance is low.

Recent studies show that the use of mobile banking technology significantly affects the retail banking sectors of the UK. The use of this technology enables the customers to money transactions at longer distances more easily. Recently Picoto explains the evidence of mobile banking on the cultural sectors and customer services. The analyses show that there exists remarkable advantages of information technologies in the banking sector (Picoto et al., 2021). There is a positive relationship between the use of mobile banking and customer level of satisfaction. Figure 2, shows the impacts of mobile banking services and customers level of satisfaction. The data from ING Bank of UK was collected and it shows that a large sample of customers was satisfied with the online mobile banking services (ING, 2015). The customers are better able to finance and never missed the payments. There is a positive impact on this technology in the retail banking sector of the UK as the customer's level of satisfaction was good.

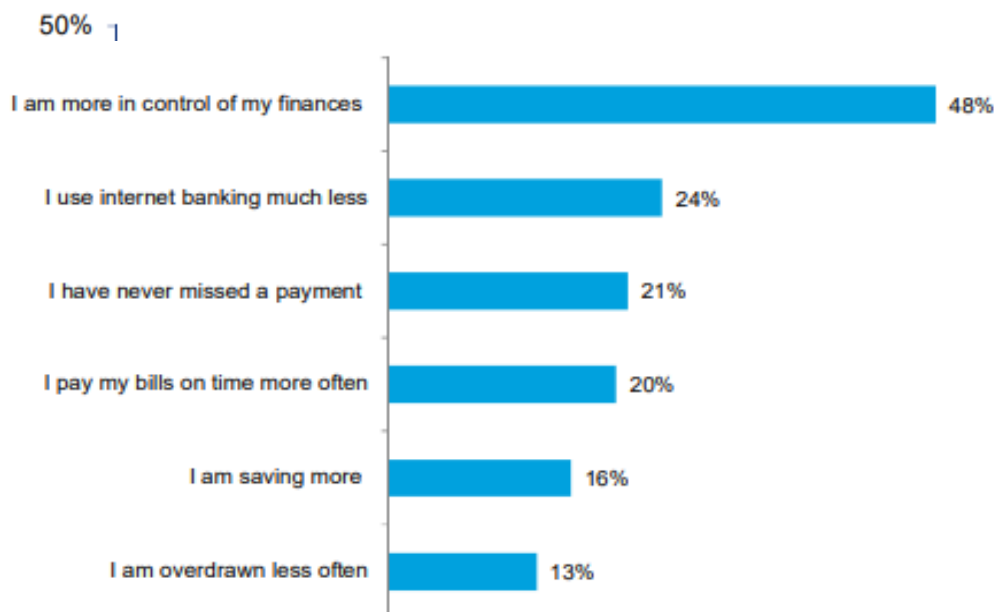


Figure 1: Importance of mobile banking services (Board of Governor of Financial Reserve system, 2015)

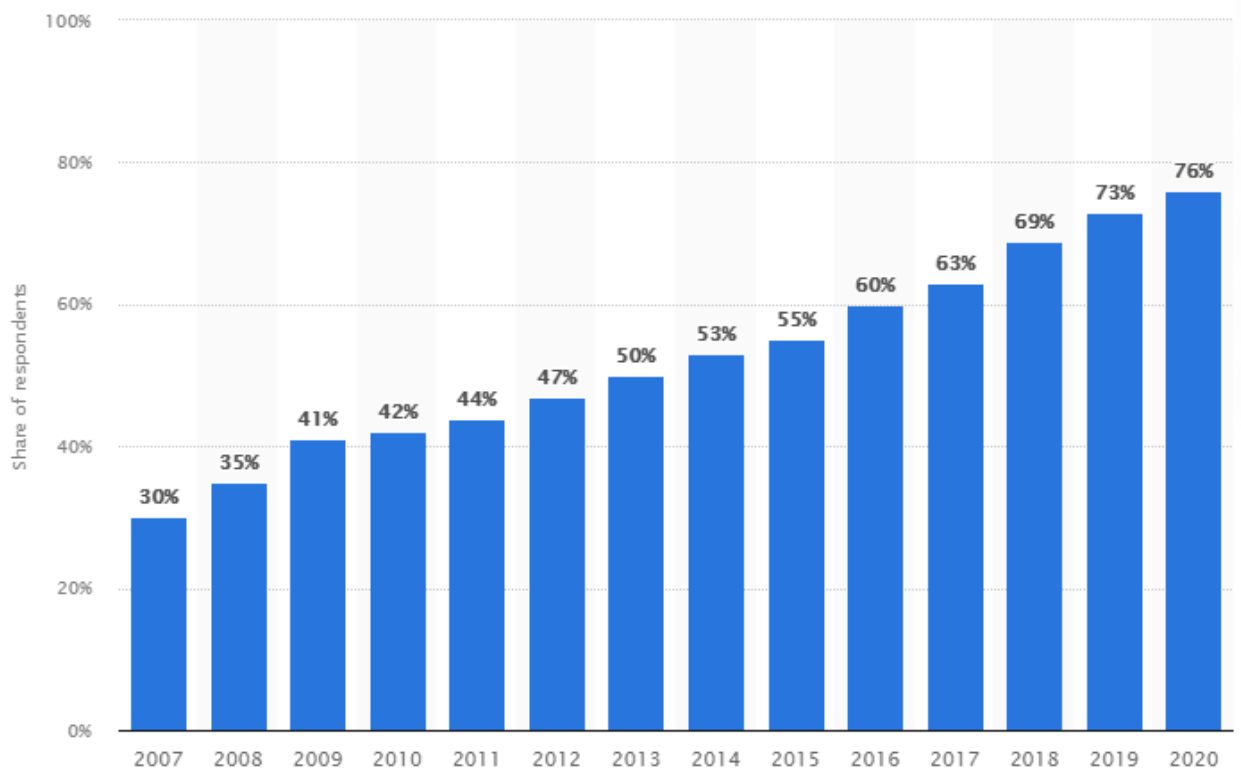
Figure 2: Impacts of mobile banking services on customers (ING, 2015)

### 2.3.2. Digital Wallet

The technological innovation of digital wallet facilitates the customers with the storage of cash and help the customers to make the online payment via mobile devices. Most small and

medium-sized enterprises use digital wallet technology for the storage of payments. The digital wallet services can be categorized as mobile digital wallets and online digital wallets. They allow the customers to store payments either on credit cards or mobile phones. In the UK the use of online digital wallets is more efficient. The most used online digital wallet is PayPal which helps the customers to input the bank details for the transaction of money. Mbana and Ezepue describe the digital banking and customer experience of UK banks in 2018. The researcher surveys UK banks and checks the level of customer satisfaction. The study investigates the relationship between the customer's level of satisfaction, experience and service quality while using digital banking (Mbama et al., 2018).

The use of digital banking wallets has a positive impact on the consumers as it provides the benefits of potential security to the customers. The use of a digital wallet helps the customer while online shopping. It also facilitates the online retailers by providing online transactions rapidly. There exist some negative impacts on the customer's digital privacy with the use of this technology. Moreover, the PayPal digital wallet is more expensive rather than the master and credit card. The figure below shows the increasing use of online banking in the UK from



*Figure 3: Technological use in retail banking sector of UK (Great Britain: online banking use 2020 | Statista, 2021).*

2007 to 2020 (Great Britain: online banking use 2020 | Statista, 2021). With the innovation in

technology the online banking positively affect the banking sector of the UK. It also provides various services to the customers including ATM's and credit cards. The payoff of credit cards and online transactions became the fastest growing area of technology in the retail banking sector.

Recently Balkan investigates the impacts of digitization on the Banking sectors because the technological advancements are changing countries' economies and banking services. The transaction of money from the banks and the use of automated teller machines diversify the role of technology in the banking sector. Digital banking helps to access services more easily and efficiently. The satisfaction of customers increases the productivity of banks and this helps to improve the socio-economic development of the country. The use of technology and digitization of banks also facilitates the customers with more flexibility and managing the financial solutions easily. Technologies improve the performance of banks by transforming the data into useful information. Moreover, the use of mobile technology is the most prominent factor that facilities the customers to get direct financial services (Balkan, 2021).

#### **2.4. New technologies continue to impact the banking sectors**

The transformations in technology affect the banking industries to a great extent. With technological advancement, the banking processes are much faster and reliable in the UK. The new technologies including artificial intelligence, Block chain, Machine learning and Robotics improving the experiences of the customer to use the various banking services. The use of these technologies will help the banking industries to become more productive. In 2015, Shanmugam and Hajli describes the understanding of customer view about online banking in the UK. The research study aims to determine the impacts of emerging technologies in the UK retail banking sector. The researcher analyses that the bill payments and money transfer facilitate the customers while using the technologies in the banking sector of the UK. To overcome the security concerns of the customers the rate of adoption of the internet is more significant. The research study describes the role of technologies improve the customers level of satisfaction (Shanmugam et al., 2015). The new emerging technologies affect the banking sectors of the UK. Some of few are discussed below:

##### **2.4.1. *Artificial Intelligence***

With the high usage of the internet and mobile technologies, businesses and economies are affected to a great extent. The "digital age" that starts with the use of artificial intelligence bring huge transformations in e-businesses including online banking, electronic payment and e-commerce and digital banking. It helps to improve the business performance of the banking sector and consequently the economic growth of the countries. As Dirican explains the impacts

of artificial intelligence on the business performance of the banks in 2015. The research study describes the importance of emerging technologies in the banking sector and their impacts on the economies of the countries. There exists a positive impact of artificial intelligence on the banking sector of the UK. The e-banking opportunities and technological advancement in banks improve the business performance of the banks. This study concluded the impacts of artificial intelligence and robotics in the retail banking sector and economic development (Dirican, 2015).

Artificial intelligence is transforming the banking sector of the UK. The heads of the UK and Ireland at Tata consultancy services describe the role of artificial intelligence in the banks (Artificial Intelligence is transforming the banking industry, 2021). Artificial intelligence positively affects the financial services of banks. The sector offers new operating models and financial services as providing the block chain services in the financial sector. The

**(Banking and Financial Services): Business Function in Which AI Will Have the Greatest Beneficial Impact on Competitiveness by 2020**



Figure 4: Impacts of new technologies on banking, (Artificial Intelligence is transforming the banking industry, 2021)

figure above shows the importance of artificial intelligence in providing the financial services of banks and it provides the greatest benefits in 2020 as the COVID pandemic affects the business operations of the banks.



#### **2.4.2. Robotics**

In the banking sector Robotics is defined as the automation process that increases the efficiency of banking services by using different software such as Unipath. The software robots act as an artificial intelligence workforce that assists in better assessment of business strategies. It also eliminates the error that arises due to various human factors. In the retail banking sector of UK, the robotics technology is considered a technology innovation. Bassen and Dauth in 2020, describes that with the digital revolution the robotics technology is emerging to improve the business performance of various departments. They have contributed to banking and computer due to the innovation in information and communication technology (ICT). Robotics technology improves the financial challenges faced due to human errors. The technology also improves investment and trading services for the customers (Bessen et al., 2020).

There are many benefits of the Robotic automation process in the retail banking sector of the UK. Vijai and Elayaraja in 2020 investigate the future of RPA (Robotic Process Automation) in the banking sector to improve the experience of customers. Moreover, the use of robotics technology helps the banks to save money on the employees and doing more with less using the RPA (Vijai et al., 2020). The use of robotics technology improves the following

- Increasing the operational efficiency of banks
- Reducing the operational risk caused due to human errors
- Helping in Fraud detection
- Improving the core banking operation (documentations, data updates and accounting management).

### Chapter 3: Research Methodology

Research methodology is the specific procedures and processes consisted of different tools and techniques by the researcher to analyse and compiling of information about the research topic. This chapter allows us to critically evaluate the study's overall validity and reliability to conduct quality research (Kumar, 2018). For a better understanding of complex phenomena's, tracking unique and unexpected events, and how the participants derive meaning from their surroundings and how their meaning influences the behaviours. This chapter aims to analyse the tools and techniques utilised by the researcher to evaluate the evolution of technology in the UK retail banking sector with the historical analysis before the introduction of technology and how technology has influenced the banking services in the UK.

#### 3.1. Research Approach

To conduct credible research, the researcher makes hypotheses for clear decision making and evaluations. There are two types of approaches usually used to conduct a study include inductive and deductive approaches. A deductive approach usually begins with a hypothesis while an inductive approach begins with a research question to narrow the scope of the study and explains the cause and effects by using the qualitative analysis. Qualitative research is more associated with an inductive approach which is focused on exploring new phenomena with a different perspective (Armat et al., 2018). Relating with different researches and perspectives of authors, with this approach, the research development is done at the end of the research.

This research is conducted by using the inductive approach as a strategy through historical analysis from previous researches on the same topic. To examine the current circumstances and usage of technology in the banking industry with the historical analysis of the banking sector without technology usage. From already conducted sources, the data is extracted to analyse the dynamic nature of the banking industry that has been even advanced by using the necessary technology.

#### 3.2. Research design

Majorly, researches are conducted by using the qualitative, quantitative and in some scenarios through the mixed approach (Aborisade, 2013). Quantitative research designs provide summaries of information involving the greater number of subjects in quantitative terms. Quantitative research design is mainly conducted to analyse the cause and effect relationships by using the deductive approach which incorporates the population's opinions and practices. Similarly, in qualitative research, the study is more focused on the already

conducted researches by the authentic authors. The hypothesis development occurs at the end of the research based on conducted content and analysis which gives the answers of why and how's. While coming towards the mixed approach, both the qualitative and quantitative research designs utilised to conduct research information. The mixed research design gives a precise and credible analysis because of the state's analysis and content analysis.

To learn about the evolution of technology in Retail Banking, Qualitative Research has been used. This research type enabled the researcher to assess the existing literature which lead them to further findings and conclusion. Different researches has been analysed to learn about the developments in the banking sector regarded to establish the milestone in the sector with the positive and negative implications of technology on consumer's satisfaction level.

### **3.3.Data collection method**

The findings of a research are based on the accuracy and credibility of the extracted data. There are various tools and techniques used by researchers to conduct accurate and credible research include primary and secondary methods (Paradis et al., 2016). The primary method mainly approaches first-hand information by using the different instruments. Although it takes a long period for observing and in experiments but give fair and clear views about the research. Researchers analyse the opinions and preferences of the population by using the questionnaire, interviews as an instrument. While on the other hand, secondary research mainly conducted by letting the existing research which leads to better results. The secondary data collection method is considered more appropriate because it takes less time to generate authentic results.

This research has followed the secondary data alongside qualitative research which has collected data from authentic resources such as government published documents and reports, research journals and articles. Some of the authentic websites and other online resources has been used in developing this literature. Thus, the evaluation of impacts of technology on banking industries with the deep analysis of technological advancement in the UK has been performed by using Secondary Qualitative Research.

### **3.4.Research philosophy**

Research philosophy is mainly concerned with knowledge development, nature and philosophical viewpoints of which used for the determination of methods used for the quality study. The research philosophy is classified into ontology, epistemology and axiology (Bilau et al., 2018). Ontology is mainly concerned with the study of beings which analyses nature and reality on how things works and how it works which comes under interpretivism. While epistemology is mainly concerned with scientific methods, the researchers utilised to observe

and measure the facts and numbers with causal explanation and predictions. Similarly, Axiology is known as value-free research in which the study takes an objective stance. Both epistemology and axiology come under positivism.

Concerned with this study, the research has utilised the ontology under interpretivism, in which the researcher specifically observe the social world based on its interest as to how technological advancement has changed the perspective of the overall world by providing innovative opportunities to the banking sector for the development of trust between the consumers and enterprise. Moreover, with the evolution of technology in retail banking, it also explores the number of factors that have influenced the evolution of the banking sector within the UK these are the economics of scale, economic drivers, and interaction with the demand-side driver.

### **3.5.Methodological frameworks**

Different methods, rules and procedures give the structure to guide processes to achieve particular goals. This research is predicated upon the diffusion theory of technology which is presented upon two assumptions. First, to adopt the change, the workers need a high level of skills to adopt the change. Secondly, with the passage of time technology changes, which is why it does not require a high level of skills and is easy to access. Through this theory, the research further explains and evaluate the issues faced by the banking sector due to the skill formation, distribution and dynamics of innovation and diffusion (Comin and Hobijn, 2010). Furthermore, this research further investigates the production analysis with and without technology, innovation and quality improvement in the retail banking sector of the UK.

### **3.6.Data analysis techniques**

Data analysis is done based on a conducted literature review from different sources. There are different tools and techniques used to evaluate the theories, opinions of the population and make findings according to the topic of the research. To analyse the quantitative data, statistical measures such as SPSS, correlational methods, Anova and t-tests required to evaluate the impact of technology on the retail banking sector. With hypotheses development, the dependent and independent variables, are further utilised for individual analysis and their significance level on each other. Similarly, in qualitative data, there are different tools and techniques to analyse the content and present findings. Thematic analyses, systematic analysis, content analysis are the key techniques to conduct accurate and valuable findings. Thematic analysis is used to identify the themes, patterns and interesting elements in the data, for example, in interviews, the researcher find different themes on the sample's work experience, their fields and salary ranges (Braun and Clarke, 2012). While in systematic review or meta-

analysis, the study is conducted to just answer the question raised in research questions. Content analysis is a tool used by researchers for deep analysis to quantify the meaning, information and relationships of concepts by systematically evaluating the text (Neuendorf, 2017).

In this research, the qualitative data has been analysed by using the content analysis tool to draw inferences from the assertions of technology in the banking sector of the UK. Moreover, this research is extensively elaborate the potential contribution of technology with a unique and innovative perspective that regards the existence of technology and its relation with growth in the banking sector of the UK. In addition to this, this research further elaborates the competitive advantage on the evolution of the technology and its main concerns faced by the retail banking industry in the UK.

### **3.7. Research gap**

Every research faces some gaps mainly in studies conducted with primary researches. These gaps include are in the form of unexplored ideas, flaws in the study while conducting the research structure, framework, the questionnaire or interviews from the wrong sample size that directly impacted the results and finding and cause a failure in research. These gaps are sometimes in the form of limitations in the form of constraints faced by the researcher to present the findings (Mackey and Gass, 2015). Most of the studies especially, academic articles face these time of issues while designing the study's results.

While researching the data on designed questionnaires, due to some ethical concerns and privacy issues, the banking sector did not allow and share their internal information with the general public. So, this reason is the main concern for the researcher to conduct the internal impacts or challenges faced by the banking sector before technological advancement.

### **3.8. Limitations**

Some factors that are not under the control of the researcher and that influence the research credibility and value ability are called limitations. Research limitations are in the form of shortcomings, conditions or influences faced by researchers who place restrictions on collecting the data, make findings and conclusions. Time and resource limitations are the main factors that influence the research. The short time of period is the reason to conduct data quickly which causes the issues for the researcher. Moreover, the cost and finance factors also influence the primary researches (Flick, 2015). Mostly, while conducting surveys and interviews, some lump sum amount is required by the researcher for travelling, internet.

While conducting this study, the researcher faces time limitation, the research is mainly conducted to evaluate the impact and influence of technology on the retail banking sector of

the UK. For this, the historical analysis of the banking sector before the introduction of technology and its comparison with advance era.

### **3.9.Ethical concerns**

Ethical considerations are the most crucial part of the research which is dependent on several ethical and privacy features. To conduct credible research, it's the researcher's responsibility to respect the participants and should not harm them by respecting their dignity and priorities. Full consent should be obtained by them before adding the participant's opinion. moreover, the data should be conducted by considering the principles of general data protection regulations (GDPR) in which data is not shared with any party without the consent of the participant and only voluntary participation (Glesne, 2016). While in secondary research, it's the responsibility to communicate the results and findings without any biasness.

This research is conducted by using fair and clear reviews of the population and the researcher has presented the finding honestly without any biases and adding something by own. The whole findings and analysis of the study are presented by the researcher accurately by using the tools and techniques to minimise the error and biases factors.

## **Chapter 4: Analysis & Discussion**

The following section entails analysis on the data gathered. The data obtained from secondary sources is systematically analysed. The relevant data to the research questions and research topic is studied. The data is easily accessed from the databases that were Google Scholar and

Sci-Hub. All the national and international data is analysed for the study. The keywords were technology, retail banking, adaptability, resistance, diffusion theory. 100 related articles were found relevant to the study but only 30 most related with the keywords and topic were considered. The inclusion criteria for the data is technology related articles in the retail banking of the UK and outside the jurisdiction of the UK. The data is chosen from the year 2003 to present (2021). The exclusion criteria is technology adoption in the retail banking research publications other than the English language. The outdated relevant research articles were not included.

#### **4.1. The pre-technology era in the UK retail banking**

Bank currencies were first used in England in 1661 and the Bank of England was established in 1694, shortly after the cash was introduced. This was the initial of the central banks, and it is currently the English government's main banking source. The BoE was once a privately owned company that was taken over by the government in 1946 and then became a self-governing company in 1998 (Cashfloat, 2021). The Bank of England (BoE) is in charge of issuing all banknotes in England and Wales, as well as supervising banknotes printed by Scottish and Northern Irish banks. The bank dubbed the "Old Lady of Threadneedle Street," has become a symbol of dependability and solvency. The expression "as safe as the Bank of England" is still used to denote sound transactions (Richards, 2021). Thus, the BoE, which controls monetary policy and has its offices in the City of London, was the predecessor to the contemporary banking network of the United Kingdom.

Banks were seen to be secure, with enough gold resources to cover all of the banknotes produced. This might never have happened in practice, but thankfully, not everybody requested their cash at the same moment. Small corporate banks were able to print their own banknotes (Cashfloat, 2021). The private banknotes gradually vanished as these were combined, and all cash was issued by the Bank of England. Banks in Scotland and Northern Ireland were the sole exceptions. These two countries continue to print their own currency. All of the UK's gold assets, as well as those of a few other nations, are kept safe at the Bank of England (Richards, 2021). It is the world's biggest guardian of gold assets. The retail banking and financial sector in the United Kingdom has been impacted by a variety of issues and dangers, one of which is the pre-technological period. As to Mas (2009), the majority of banks keep track of their routine transactions with customers and investors. Banks also physically compute their quarterly savings account earnings and paste them into the bank's ledger for later use. Thus, all assets within UK banks were kept in hard copy in order to keep track of the industry's progress.

## 4.2. The post-technology era in the UK retail banking

As the rise of banking accelerated in the 1960s, finally, the UK received its first ATMs (automated teller machines). These were currency withdrawal devices where you could use a bank-issued debit card to get money. Most individuals paid for products and bills with cheques at the time. Many individuals began utilizing this way to retrieve money as banking became more widely accepted. Bank cards, on the other hand, could only be used to withdraw funds from bank account (credit cards were few at the time), and few individuals had access to overdrafts. However, debit cards were soon introduced, which could be used to shop for a variety of things instead of a cheque (Davies et al., 2010). Big retailers started to accept debit cards instead of checks as payment. The procedure is now considered to be very lengthy, with sheets of paper stamped with card information, signed, and copies delivered to the consumer, the shop, and the granting bank. The SWIFT (The Society for Worldwide Interbank Financial Telecommunication) payment system was founded in 1973. It's a global network that allows banks to transmit secure monetary transactions and communications. This new mechanism allowed people to send money to people all across the world while knowing it was safe (Cashfloat, 2021). All banks must follow the same basic functioning standards. This technique also creates an audit trail that may be traced to determine whether or not a scam or unauthorized money transaction occurred.

### 4.2.1. *Electric to Electronic Communication: precursors of change (1846-1945)*

Just after the invention of the telegraph in the earlier 1850s, which enabled connectivity and information sharing quicker and decreased price distinctions between stock exchanges, the first substantial changes in retail banking happened. Furthermore, a higher degree of interaction resulted in more frequent organizational exchanges between the corporate headquarters and the branches. This led to changes in the organizational structure, with peripheral units gaining the ability to execute tasks that were previously only entrusted to central offices (Consoli, 2003). However, because the delivery of products did not alter, banks' connections with their clients stayed practically similar at the time. Banks were consciously engaged in the consolidation of branch networks in the last quarter of the nineteenth century so that they could function in a more integrated way at a local level, launching new offices and establishing a framework of financial activities ranging from lending to exerting client control (Collins, 2012). Despite the fact that banks gained a large aspect through extensive mergers and acquisitions, the rigid framework of institutional practices and the lack of useable data systems prompted commercial banks to adopt a protective posture toward potential and current clients, especially industrial actions.



#### **4.2.2. Processors to Database (1945-1968)**

The software's debut was a watershed moment in post-war progress. Although it was designed to reduce the expenses of ordinary operations by enhancing the productivity of existing organizational processes, it has since been expanded to include a variety of additional uses. Banks became competent depository organizations on a mass-market scale during the mid-1950s, indicating a changing socioeconomic structure (Davies et al., 2010). Improvements in operating speed paved the way for more regular interactions with consumers, more business contracts, and a broader and more diverse range of competitive prospects. During this stage, the Database Management System (DBMS) was created to allow the incorporation of the body of data that would be handled, allowing data to become more dependable and visible. The DBMS's most important uses were the digitization of the Settling Service and retail bank transactions. These two developments, which sparked the practice of convergence toward a set of technological norms in banking, will soon be revealed to be crucial parts in the formation of a larger network (Consoli, 2003). Hence, the first example of a compound service product in that their production required the integration of many forms of additional information, ranging from accounting to computing.

#### **4.3. Motivation for technological innovation in the UK retail banking**

##### **4.3.1. The need for technology in the UK retail banking**

The Nottingham Building Society and the Bank of Scotland introduced electronic banking facilities in the UK at the beginning 1980s with the 'Home link' service (Tait and Davis, 1989). Yet, they were largely unsuccessful in gaining broad adoption, and the majority were eventually phased out (Vinson, 1978). Several banks have recently established or are creating e-banking services as a result of the rapid rise of other forms of digital services, most of which are based on the Web.

##### **4.3.2. Digital banking – empowering customers beyond outlets**

According to the latest studies, the usage of cellular banking innovation has a substantial impact on the UK's retail banking business. Customers can conduct cash transactions over larger distances with the help of this technology. Picotto recently discussed the impact of mobile banking on the social and client service industries. The findings suggest that data technology has significant benefits in the banking industry (Picoto et al., 2021). There is a positive correlation between mobile banking usage and consumer happiness.

The usage of automatic teller computers and the transfer of cash from banks diversify the role of automation in the banking industry. Accessing services is made easier and more effective with digital banking. Customers' pleasure boosts bank efficiency, which promotes the

country's socio-economic progress. Clients benefit from improved flexibility and ease of management of financial services as a result of banks' use of technology and digitization. By converting data into valuable knowledge, technology helps banks enhance their productivity (Balkan, 2021). Furthermore, the most important component that enables users to obtain direct banking services is the usage of mobile technologies.

#### **4.4. Impact of technology in the UK banking sector**

In the UK, the retail banking sector is being transformed by strong forces. Development is certain and expenses are difficult to manage, and ROEs are chronically low. Company models and finances are being impacted by regulation. Software is rapidly evolving from a costly issue to a powerful enabler of both excellent customer service and efficient operations. Non-traditional players are upending the status quo by focusing on customer-centric development. There are new solution suppliers on the scene (Samakovitis, 2012). Clients are expecting better and greater levels of support and value from businesses. The level of trust is at an all-time low. 70% of global banking managers say it is critical to building a vision of the banking market in 2020, including an understanding of how global developments are affecting the financial sector, in order to establish a successful strategy (PwC, 2020). Economic, human, technical, and organizational obstacles are all cited by banks as preventing them from meeting these objectives. Banks must act quickly to alleviate these restraints and govern themselves more agilely to enable creativity and change while maintaining their flexibility to take advantage of market possibilities and respond to unanticipated difficulties.

To boost productivity and use insights, top institutions are already routinely using automation tools such as RPA and chatbots. This will be the bank's default strategy in the long term. To promote electronic functionality, fulfilment, and personalization, many banks will need to speed and expand their own infrastructure and cloud projects, which will often be in collaborations or partnerships with agile, inventive fintech businesses (Oza et al., 2020). They will have to rely on smart data and insights to focus the appropriate goods and services to particular clients at the right times and through the appropriate means. As more activities migrate web and to electronic, it will be critical for banks to maintain a relentless focus on operational resilience and security of their services, notably against cyber threats (Kshetri and DeFranco, 2020). It will be critical to use new technology in the middle and back offices to digitalize processes, substituting manual and paper-based activities with higher degrees of robotics and straight-through execution. Modern software has spawned a slew of new engagement platforms, such as APIs, that prominent banking services organizations are using to connect out to new consumers (PwC, 2020). Developing concepts such as augmented vision

and shared ledger technology will further change the nature of financial services as tech continues to advance.

#### **4.4.1. Classification of the UK retail banking**

##### **4.4.1.1. Full-service banks**

These are banks that offer a comprehensive variety of banking solutions to a diverse spectrum of consumers, from retail and corporate banking to commercial and investment banking. The majority of these banks already offer items and expertise linked to bancassurance and wealth administration. HSBC, Citibank, Deutsche Bank, Banco Santander, and Bank of Baroda are just a few examples (KPMG, 2020)

##### **4.4.1.2. Specialist banks**

Retail and little company consumers are the emphasis of specialized banks, and they tend to have a deep awareness of their core client segment's demands. Royalty revenue from items like mortgages makes up the majority of their revenue. Tiny electronic neo banks are also included in this group. DBS, Equitable Bank, and Monzo are just a few examples (KPMG, 2020)

##### **4.4.1.3. Consumer credit providers**

Banks that specialize in customer credit primarily serve underprivileged areas of society. These banks began as non-bank financial firms, such as vehicle loan companies, subprime credit card companies, and gold lenders, but have since taken deposits to lower their funding expenses. American Express, Capital One, and Mastercard are examples of such providers (KPMG, 2020)

##### **4.4.1.4. Money transfer providers**

The fundamental goal of these institutions is to increase economic inclusion. They often offer a small number of basic banking goods, such as deposit accounts and remittances, but they have a large network of branches or connections supplied by others, such as merchants or post offices. Grameen Bank, Western Union, and PayPal are just a few examples (KPMG, 2020)

##### **4.4.1.5. Digital wallet providers**

Banks that use the wallet concept put a premium on the electronic payment experience for their customers. They often evolved from fintech companies that connect with social media networks and now offer deposit and lending solutions. WeChat Pay, Ant Financial, and Paytm are just a few examples (KPMG, 2020) As a result of the signals of shift, the retail banking sector is evolving, and KPMG study indicates that in order to accomplish profitable

development and effectively manage the consequences, banks will need to pivot to business model ecosystems in the long term.

#### **4.4.2. Business banking model in the future of the UK**

According to KPMG (2020), three retail financial models, such as a new kind of ambient bank, are highly expected to lead the industry in the long term. The consumer will be at the heart of all three models' objectives.

##### **4.4.2.1. Universal banks**

With rising operational costs and negative pressure on processing fees and interest income, universal bank profits are being stretched on both ends. As a result, universal banks must be data-driven and create their own ecosystems based on their enormous customer base. This will allow them to diversify into new revenue streams, such as assisting clients and households in saving money on significant expenditures such as utilities, groceries, telco/internet, and so on. The capacity to use transaction data will be critical to this, as it will allow for a better knowledge of client behaviour and possibilities to help them (Neuhann and Saidi, 2018). Some of Universal Bank's local system will be retained, whether to service high-margin customer segments that prefer in-person engagement or rural populations with little digital literacy and access. Considering this, to maximize cost-effectiveness, the running model will need to be as robotic as practicable.

##### **4.4.2.2. Transaction-focused banks**

By definition, transaction-focused banks are essentially payment system suppliers. They are highly concerned with unit economics, ensuring that transaction costs can be paid by income to ensure long-term viability (Desmarais III, 2020). They apply a laser-like concentration and target certain consumer segments, always inventing to meet those demands and expanding their services. The success of these banks will be aided by open banking, which might allow huge tech businesses to get a piece of the action (Frame, 2020), and execute a growing number of financial transactions with vast client bases and rich consumer transaction history data.

##### **4.4.2.3. Ambient banks**

Ambient banks are 'invisible' agents integrated within regular Network of Things (IoT) equipment to facilitate payments, rather than distinct entities. Having data from a large number of IoT devices would also help the bank gain a better knowledge of its clients' spending patterns and credit needs (Nithya and Kiruthika, 2021). The ambient bank is a key component of ecosystems like Samsung's and Microsoft's. The ambient bank model is being investigated by certain traditional banks. For example, FINN by ING Bank enables intelligent devices to

conduct autonomous transactions on the user's behalf. Goldman Sachs has created a developer API gateway, positioning itself as an API supplier in the ecosystem (KPMG, 2020). As a consequence, the emphasis is on developing and delivering APIs, microservices, and technological architecture that is modular.

#### **4.5. New Technologies impacting the banking sector**

Technology playing an important structuring of the operations of the banking sector of the UK. The literature is based on the studies of authors to provide the financial challenges which are being collectively described under the studies of the author based on the impact of technology on the UK banking sector. According to the research of Campanella et al (2017), it is found that technology playing an important role and the researcher in his research provides the negative relationship of financial leverage observed under enterprise resource planning. The study also provides insights on resource planning innovation and software used to manage the credit risk under the banking system. The impact of technology is also influenced through the studies of this author which provides the innovation which concern the enterprise resource planning software systems and other software's for the management of credit risk to increase the earning margin of banks.

Under the impact of technology in the banking sector of the UK, the studies found the impact of electronic banking and information technology on employees of the banking sector (Gupta et al., 2017). The study of these authors focuses on providing the knowledge of financial transactions which are required to be changed and requires innovation in it. This research focuses on providing the recent trends which are focused on comparing them with new technological interventions to help in developing the understanding of their impact. It is found from this study that RTGS is one of the important systems which was introduced in 2004 for the cause of clearing system. This system was introduced to dedicate the large the value transactions with access and there is no upper limit required made under the RTGS transactions.

Mobile banking is another important technological factor that plays a significant role in the banking sector of the UK and has an impact on the purpose of customers services. Under the studies of Mojtahed et al. (2013) backed in mobile banking with the help of the introduction of UTAUT technology. It is found from this study that it has a significant relationship with the introduction of the technology of UTAUT. Under this technology, as found from the study emerges the performance expectancy to the strongest antecedent under the intention of its usage for better performance in mobile banking especially through ATM. For such purpose of technology usage and its effectiveness author in its study found the sample size culture

significantly moderated just for the sake of facilitating conditions and its usage intention in terms of making mobile banking more effective for their customers.

The study is further backed by Picoto et al. (2021) and provides more insights about mobile banking and its influence under the technological evolution in retail banking of the UK. The study of this author focusing on the perceptions of the customers and their experience on the transformation of retail banking into digital banking. Its further emphasis on the financial performance of banks and in retail banking of the UK in terms of certain factors. These main factors found from the study focus on determining the experience of customers after the evolution of digital banking in the retail banking sector of the UK. This study further focuses on providing the knowledge of service quality and the quality of their functions performed in the banking sector of the UK. The focus of this study is also based on the development of the significant relationship among customer experience which further involves their loyalty and satisfaction which is ultimately related to their financial performance.

It is believed that according to tot the studies of authors in this literature and found that technologies playing an important role and kept on impacting the banking sectors. The study found from the research article is focusing on the results coming out in return to impact technology in the banking sector (Shanmugam et al., 2015). Going into the insights of money transfers and bill payments which are directly linked with the technological factors tends to keep on positively impacting the banking sector. The study further provides the other factors involved such as security which is considered as another important part of rating the internet banking of the UK. There are certain situations where customers have some negative impact related to technology in the banking sector but this study helps to resolve the security concerns about internet banking (Lee, 2009). The study also provides the technological advancements taken place by many banks of the UK to create a positive impact on the banking retail of the UK.

The study is further taken by Dirican (2015) which impacts based on robotics, artificial intelligence as it imposes a factor business and economics. It involves technology which helps in getting more insights into the impact of technology on the banking sector. The study provides the knowledge based on customer relationship management which plays an important role and can swing both ways either positive or can create negative impact. The banking system of the UK in every type of bank is influenced by the impact of technology found in this study and creates serious impacts in daily business life (Grabner-Kräuter and Faullant, 2008). There are certain sideways effects due to technology which is being faced by the retail banking sector of the UK as found from this study. Further, the study is backed by Vijai et al. (2020) on providing

the knowledge of robotics which help in improving the technology where lack is found. The literature provided in this dissertation is backed with evidence-based knowledge provided in the journal article. It is backed with the help of examples found in the form of different banks mentioned in the article. Robotics play a vital role in the technological factor in the retail banking sector and at the same time, it requires establishing a process that helps in making it more effective and efficient as found from the study. For its better use in the retail banking sector of the UK, it is important to go deep into the study and focus on robotics process automation and world markets to have more effective artificial intelligence (Madakam et al., 2019).

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### **Chapter 5: Conclusion**

Technology plays an important role in every sector and with the advancements, it creates more impact in different sectors. In such patterns, it is important to focus on the insights of the evolution of the technology in the retail banking sector of the UK. The focus of this study provides knowledge based on adoption and its insights in the retail banking sector with the help

of its aim and objectives. There are certain areas where organisations are not completely influenced by the advancement in technology and still facing the consequences attached in terms of not using the technology. 30 research publications relevant to the topic of the study and in English language were included. The data is systematically review from the literature.

### **5.1. Research Summary**

The study in literature is organised in a way where the history of the retail banking sector is defined as it is important to achieve the aims and objectives of this dissertation. It is believed that in the past people kept their money in the basement and were guarded by priests and temple workers to secure their money. Such rich history helps in demonstrating the requirement of advancement in technology within the retail banking sector of the UK. The conduct of the retail banking sector before the technological advancement was a service-oriented organisation working to serve their client with services in terms of keeping their money safe and sound. The study further provides the focal point of the retail banking sector and the requirement of technology and provides the insights which play an important role in technological innovation. Drivers of technology as the knowledge on them provide their basic need in the advancement of technology and these drivers play an important role for the advancement and innovation in the technology. Without these drivers, it is difficult to adopt and use the technological advancements in the retail banking sector.

The study differentiated the drivers of technological advancement and drivers of technological advancement in retail banking needs to be dealt with separately through that it is much easier to get the insights of such innovation. The advancement in technology for retail banking creates an impact in terms of the expansion of their services. These services were necessary and important to provide the people of the UK in the shape of mobile banking and digital wallet. It helps to provide a strong linkage with the economy of the UK and provides a range of innovations to establish a strong structure based on the requirements of banks. The stats of both provide insights about the usage and influence which creates an impact on retail banking of the UK. Over time new technologies also keep on influencing the retail banking sector to a great extent. And in such terms, it is important to enhance the artificial intelligence of the banking sector and keep themselves up to date in terms of advancement in technology. The study further provides the discussion and analysis based on the literature formed in the dissertation. It is quite important to note that banking has a long history and after the barter system money was introduced to form the buying and selling as the literature and studies of authors provide knowledge. Discussion on history is important because it leads to provide the core value and nature of the working of banks and their changing effect which plays an



important role to differentiate between the old and new banking systems. Banknotes in the past were vital and have a huge influence which in return enables to promise the sum to bearer on demand. Digital banking helps to access services more easily and efficiently.

The satisfaction of customers increases the productivity of banks and this helps to improve the socio-economic development of the country. 70% of global banking executives believe it is very important to form a view of the banking market in 2020, to understand how these global trends are impacting the banking system to develop a winning strategy. Leading banks are already systematically deploying automation solutions such as RPA and chatbots to increase efficiency and leverage insights. The business banking model in the UK is based on universal banks, transaction-focused banks and Ambient banks. UK retail banking has evolved after the technological advancement in the sector.

The research methodology for this research is based on different aspects followed by the researcher in this research. The researcher in this research adopted inductive research in its research approach to make the hypothesis for clear decision making and evaluations. The research design of this research is based on qualitative research for the evaluation of the technology in the area of the banking sector. The data collection method in this research focuses on the collection of secondary data by considering the authentic resources and cited properly. Research philosophy is also very important and concerned with this study. Researchers use interpretivism research philosophy to observe the social world based on the interest of technological advancement.

The UK is a leading financial service provider around Europe due to the best and collaborative system of infrastructure, highly skilled people, and regulatory system. The retail banks of the UK are operating within and outside the country. Technology has made possible the accessibility of banking services within the comfort area of the user. Retail Banks must develop unique sales capabilities by adopting significant marketing tactics via online mediums and effectively use these channels to provide satisfaction to the underlying customers. The banks must further invest in enhanced digital technology services such as high-tech computing and data visualisation for the accessibility and smooth delivery of their services.

### **5.2. Research Implications**

Retail banks must empower their employees and equipping their employees with marketing demands. The employees must be trained from time to time according to the requirement of the technology. The empowered employee will lead the business in prosperous ways. Sometimes the employee resists the adoption of innovative ways of operations because of fear of being replaceable with technology. With this fear, employees intentionally resist and do not

learn the technology use. The study recommends that proper training in using and adopting innovative technologies must be provided to the employees to avoid their resistance to the adaption of the technology. To encourage the use of technology among employees of the retail banking sector, incentives must be provided. Employee adoption of technology will be reflected in the effective delivery of the services and operations to the consumer.

Online banking is increasing with the increasing use of technology. The technology has brought various other risks such as cyber-security and data safety. The banks must adopt authentic measures to prevent and safeguard the data of their users. The banks make sure that their online services cannot be interrupted and hacked by a third party. The retail banks must provide maximum channels of service delivery to their customers for their ease. As the banks are widely using technology to provide effective services to their customers. The disruptions and hindrances in their processes must be tackled as soon as possible without delay. The banks must provide satisfactory services by using technology to their clients. The more the customer will be satisfied, the more he will stick to the bank.

Retail banks must engage their customers by using the right technology advertising medium and appropriate language to grab their customer's attention on their financial services. Banks around the world are using sales into financial services to meet customers' unmet demands. Retail Banks must adopt the sales into financial services to serve the purpose in the UK. The banks must address and tackle immediately the issues experience by their customers in digital financial services. Digital smart machines are now using in the United States for the smooth delivery of financial services to customers by the banks. Retail banks in the UK must adopt digital smart machines for their customer comfort and accessibility in delivering financial services.

### **5.3. Need for Further Research**

The research is limited to the UK. The future research could conduct the research to several countries to make the findings of the study more generalisable. Another suggestion is that the present study relies on systematic literature review from diverse sources. Some of the data sources are outdated and some lack relevance to our research questions. Hence, future studies should focus on primary sources of the data to gather first hand data on the topic of the study. Only 30 research articles from the year 2003 to present (2021) were considered in this study. The future studies may include more than 30 articles in their research.

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