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Early Adoption of Online and Mobile Banking: An Analysis of Consumer Attitudes

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Abstract— Consumer behaviour is influenced by a variety of factors, among which consumer attitudes are particularly significant. Attitudes play a pivotal role in shaping individuals' purchasing and consumption decisions. This study conducts a literature review focusing on consumer attitudes toward online and mobile banking during the early stages of their adoption, specifically between 2002 and 2011. As digital banking channels gained popularity, this behavioural shift contributed to a gradual decline in the relevance of physical bank branches. The review is guided by three primary objectives: (1) to explore general consumer attitudes toward online and mobile banking, (2) to identify the factors associated with of these digital banking platforms that positively or negatively influenced consumer perceptions, and (3) to examine demographic variations in consumer attitudes. The findings indicate a generally favourable consumer disposition toward online and mobile banking during the study period, with increased adoption reflecting growing acceptance. Positive influences on consumer attitudes included time efficiency, ease of use, convenience, and enhanced autonomy through 24/7 account access and control. Conversely, concerns related to security and the loss of in-person interactions emerged as key negative factors. Demographic analysis revealed that younger consumers were more inclined to embrace digital banking compared to older age groups. These insights offer practical implications for financial institutions, suggesting strategic areas for improving customer engagement and service delivery in the digital banking landscape.

Keywords— Consumer behaviour; Attitudes; Online banking; Mobile banking; Marketing.

1. Introduction

The understanding of consumer behaviour and attitudes is vital for successful marketing campaigns and the long-term survival of businesses including financial institutions like banks. Positive consumer attitudes toward a technology are often associated with the development of calibrated trust (Daly *et al*., 2025). Attitude is a key psychological factor which influences consumer behaviour (Ngugi et al., 2020). An attitude is a learned predisposition to behave in a consistently favourable or unfavourable way with respect to a given object, such as products or services (Schiffman, Kanuk, and Hansen 2008, 248). In the context of consumer behaviour, Solomon et al. (2019, 251) describe consumer attitudes as a lasting, general evaluation of people (including oneself), objects advertisements or issues, in relation to the act of purchasing. The attitudes that consumers have towards goods or services do influence their purchase

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and consumption decisions. According to Hawkins, Best and Coney (2004), three components constitute the consumer purchasing attitudes. These are: cognitive - linked to beliefs about a product; affective - related to emotions or feelings towards an object; and behaviour - the pattern of responding in a certain manner toward an object or activity. Attitudes are formed from a variety of different causes including external environment, group membership, information exposure, and own experience with products or services.

It is not attitudes alone that influence consumer behaviour. There are multiple key influences on the consumer decision making process. Ranging from individual determinants like cognitions and perceptions, learning and memory, motivation, personality and self-concept to external influences like culture and subcultures, social class and group influences. All these factors could influence any stage of the consumer decision making process from need recognition all through to post-purchase stage. In this review, we focus on attitudes and how this influences consumers' behaviour in reference to online and mobile banking. Many banks now have apps that enables consumers to easily access their accounts and transact online. The adoption of apps can be promoted by use of inexpensive choice architecture techniques (Reeck et al., 2023). Organisations cannot ignore online channels as this is a major source of business (Agarwal et al., 2022) Online and mobile banking enables transactions to be conducted almost 24/7 and without the need to queue in the bank (Ong and Chong 2023; Zhou et al., 2021), Furthermore, some banks are closing branches as they have become redundant as consumers turn to online and mobile banking. This trend underscores the importance of investigating this phenomenon.

Understanding the behaviour of consumers is important for survival of organisations. Organisations stay in business by attracting and retaining customers. This is particularly important in the banking sector where relationship marketing is very useful. Once organisations are clear on the behaviour of their consumers, they can create goods and services that match the needs, wants and desires of those consumers. This in turn propels the organisation to success. Consumer behaviour is an ongoing process which involves behaviours before, during and after the purchase has been made. In other words, consumer behaviour essentially refers to the activities people engage in when obtaining, consuming and disposing of products and services (Blackwell, Miniard, and Engel 2006). Sometimes businesses invest heavily into campaigns aimed at changing or influencing attitudes as well as create consumer awareness of their goods and services. By understanding consumers' attitudes, organisations can identify marketing strategies and tactics and modify elements of the marketing mix to influence consumer attitudes in their favour.

The aim of this review is to examine attitudes towards online and mobile banking. Many of the main banks in the UK, and the world in general, have introduced electronic banking to offer their customers a variety of services with enhanced convenience for accessing information and doing transactions online. There is increased use of mobile and online banking across the globe (Ngugi and Komo 2017). We pursue three main objectives. First, we examine in general the prevailing consumer attitudes towards online and mobile banking. Second, we identify the attributes of online and mobile banking that influence consumer attitudes positively as well as those that influence negatively. Lastly, we investigate if attitudes towards online and mobile banking vary across demographics factors.

Having presented the research background and objectives above, in the next section we proceed and explain the methodology that we employed in undertaking this work. This is followed by description and analysis of the key studies that we reviewed. The findings are then presented and discussed, and the paper concludes with a summary of conclusions and recommendations.

2. **Methodology**

This paper is a review of literature. The reviewed sources of information were searched using chief databases such as Google Scholar, Scopus and ScienceDirect databases. These are appropriate as they provide most documented academic sources that are available online globally. In terms of broadening the source databases, LinkSource, Emerald, RefWorks, Academic Journals and Research and Market reports, which offer a wide range of beneficial studies, were also consulted. The period of review covered is 2002-2011. The initial search was done using general key words such as 'electronic banking' and 'influences on consumer behaviour'. Surprisingly, about 50 results were found easily by the databases, assuring that the sector (banking) and key factor (attitudes) had sufficient existing literature for review. Altering the research with substitute or related key words literally made relevant sources of information to be identified. Key words were refined to terms such as 'mobile banking', 'internet banking', 'attitudes', 'positive influences' and 'negative influences.' On examining the identified sources of information, some were not very closely relevant. The most relevant ones and which significantly informed the review, and the findings were a total of 20 academic studies and other 10 online sources.

Articles from academic journals formed our main sources of information. In addition, industry and government report were quite useful in providing more information. Books were also consulted especially in providing theoretical aspects, though less applicable in informing the key findings of the review. Information on banking changes and consumer attitudes is vast; thus, the research does not cover only past changes but also future trends.

2.1. **Characteristics of the reviewed studies**

Several studies formed the main sources of the findings reported in this paper. The studies include Puschel, Mazzon, and Hernandez (2010), Laforet and Li (2005), Suoranta and Mattila (2004), Future Foundation (2011), Mahmood (2009), and Wessels and Drennan (2010). We describe briefly the characteristics of studies that relate to the methodologies that they employed.

Puschel, Mazzon, and Hernandez (2010) examined the consumer intention to adopt electronic banking technology in Brazil. The study adopted survey research strategy. The sample comprised of 666 respondents: 333 electronic banking users and 333 non-users from the major economic cities in Brazil. Although the research focused only on major cities in Brazil, its large and consistent sample size made it fairly representative. In measurement, a six-point Likert - type scale, ranging from 1(totally disagree) to 6 (totally agree) were used.

Laforet and Li (2005) study focused on factors that motivate adoption of electronic banking in China. The data collection involved selecting respondents randomly from the streets and completing a questionnaire by interviewing them face to face. 300 consumers from six major cities of China completed the questionnaires. Although the research ignored the extensive rural areas, it is still considered representative of target (urban) population. The research covered both users and non-users of electronic banking and it examined their attitudes toward new technology, traditional retail banking and electronic banking products. It also looked at the influences of demographic and psychological factors.

Suoranta and Mattila's (2004) study focused on mobile banking, a comparatively new technology and marked with scarcity of academic research. They investigated the implications of the changing consumer behaviour trends on electronic banking in Finland. Data was gathered in a traditional postal way in 2002. A covering letter and postage-paid return envelope were posted together to a cross-section of 3,000 bank customers consisting of electronic users and non-users. The data were analyzed using statistical methods by the SPSS-program. The findings suggest that 38.8% of respondents have never used any form of electronic banking service, 33.2% are occasional users and 28% of total respondents have been using for a longer period.

Future Foundation (2011) surveyed 1000 adults (aged 16 or over), a nationally representative sample. In addition, they covered 279 individuals who were using electronic banking. A pilot study was conducted by Mahmood (2009) to analyze British consumer attitudes toward the use of electronic banking. Questionnaires were sent to 150 people, aged between 22 to 45 years old and in employment, hence more inclined to use Internet/mobile banking. Out of 112 responses, 105 were analyzed to identify the general opinions to the provision and use of electronic banking.

Karjaluoto (2002) applies both qualitative and quantitative research methods, involving abductive research approach together with causal modelling, to examine the consumer beliefs, attitudes, intentions and behaviours towards electronic banking in Finland. The data were collected via questionnaires completed by 1167 respondents (hence applied survey research strategy) and in-depth interviews with 30 participants. They constituted both users and non-users of electronic banking. In the data analysis, the study used several analysis techniques mainly: correlation analysis, regression analysis and structural equation modelling (using LISREL). Similarly to Karjaluoto (2002, Luarn and Lin (2005) also applied a survey research strategy in data collection and structural equation modelling in data analysis.

Wessels and Drennan (2010) explored the mobile banking market to identify the key influences on consumer's attitude towards this self-service banking technology in Australia. Data were collected by sending out 3,000 e-mail invitations to potential respondents through a national web-based survey. The e-mail addresses were obtained from a rental list. The rental list comprised of both males and females of age groups from 20 to 60 years. These are normally the target population for M-banking. The respondents would connect to the questionnaire through the link in the email invitation and complete it in approximately ten minutes. In total, 314 responses were received. Amongst them, 61.7% were male respondents and in terms of age, 72.6% of all the respondents were 15 to 35 years old.

Table 1: Summary of the reviewed studies

Authors	Theory employed	Methodology employed	Study area
Puschel, Mazzon, and Hernandez (2010)	The Innovations Diffusion Theory Theory of Reasoned Action Theory of Planned Behaviour	Surveyed 666 respondents by a questionnaire. Used a six-point Likert - type scale	Brazil
Laforet and Li (2005)	Contextual	300 respondents Face to face interview using sample questionnaire	China
Karjaluoto (2002)	The Fishbein Model	Surveyed 1167 bank customers Used mail survey 30 in-depth interviews correlation and regression analyses techniques as well as structural equation modelling	Finland
Suoranta and Mattila (2004)	Contextual	1253 respondents Used traditional postal questionnaire Used SPSS-program analysis	Finland
Future Foundation (2011)	Contextual	Surveyed 1000 adults by a representative nationally sample Used an additional sample to survey 279 respondents Quantitative research	United Kingdom
Mahmood (2009)	Contextual	Surveyed 150 people with 112 replies Used designed questionnaire	Britain
Wessels and Drennan (2010)	• The Fishbein Model • Technology Acceptance Model	Sent mail survey to 3000 people. Used SPSS analysis	Australia
Luarn and Lin (2005)	• Theory of Planned Behaviour • Technology Acceptance Model	Surveyed 394 people with 180 completed responses Structural equation modelling	Taiwan

3. Findings and Discussion

3.1. Attitudes towards online and mobile Banking

Increasing numbers of consumers and challenging business processes has put increasing amount of pressure on the banks to develop alternative delivery channels to attract new consumers and to improve their perception. Most of the main banks within the UK have introduced electronic banking to offer their customers a variety of services with enhanced convenience for accessing information and doing transactions online.

There has been a positive uptake by customers of online and mobile banking, this is demonstrated through graph below (Figure 1). The Figure compares the percentages of consumers opting to use internet, branches and ATM banking between 2007 and 2011. The percentage of internet users increased dramatically from 22% in 2007 to 62% in 2011, showing that there is a healthy future for electronic banking.

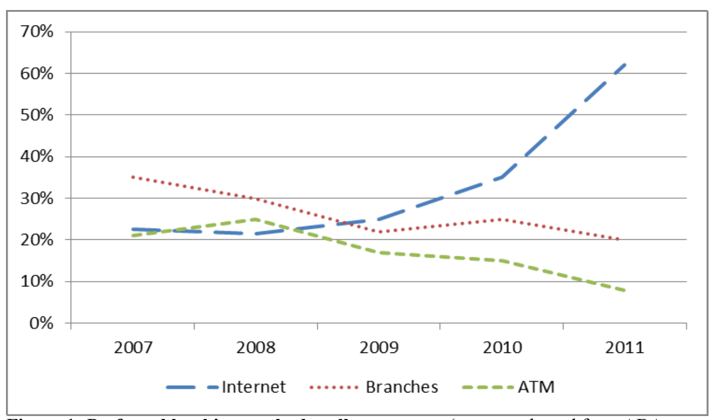

Figure 1: Preferred banking method – all age groups (source: adapted from ABA Online banking survey, 2011)

3.2. Attributes of online and mobile banking that influence consumer attitudes positively

Electronic banking has many attributes which influence positively the consumer attitudes. These includes the timesaving aspect, which is associated with electronic banking, convenience, freedom of controlling accounts, privacy, low cost and ease of use.

Time saving

One of the main attributes that influence consumers attitudes positively towards electronic banking is that it is time saving as it is a quick way for consumers to access and manage their bank accounts. It allows consumers to access their accounts including statements, balance enquiries, money transfers, making purchases, reminders of payments, etc. at any time of the day or night, on the go or in the comfort of their own home. Therefore, it is time saving due to how easy and quick it is to use without the need to visit the bank branch and stand in the queue to access their bank accounts and use banking services. They can do it on most devices that have access to the internet such as laptops, smartphones or tablets. Time is saved at least by not spending time to get to the bank branch and avoiding the queues.

According to Future Foundation (2011), 47.2% of the UK population prefer to do banking using online banking whereas only 2.9% like going into a branch to manage their banking. A further 2.5% prefers telephone banking, 3.1% mobile banking and 18.2% ATN/Cash machine. In addition to time saving, Michelangeli and Viviano (2023) recognise that internet banking reduces household's cost of acquiring information and necessitates them to participate in financial markets.

Convenience

Electronic banking is much more convenient as consumers can use the banking services at any time of the day or night and can be done in the comfort of their own home, provided they have access to the internet. Convenience is one of the key benefits that mobile banking offers (Bennet and Beers 2023). On the contrary, for non-electronic banking, customers have to visit the branches, and this limits their access to services to only the opening hours. Having the option to access the banking services at any time as they are available 24 hours a day makes it convenient.

According to Future Foundation (2011), convenience is the main advantage in eyes of the public as around 68% out of total number of people asked said that convenience is the main advantage when it comes to online and mobile banking. Also, a large number of people asked (around 57%) said that not having to go into a branch is a big advantage which also links to the convenience. Online and mobile banking are also very helpful especially to consumers with transnational consumer lifestyles as it enables them to transact across borders (Sharifonnasabi et al., 2023).

Empowerment by providing access and control of accounts at any time

Another attribute of online and mobile banking that influence consumer attitudes positively is that the consumers have greater control of their online bank accounts as they are able to keep an eye and manage the accounts on daily basis. By having a better control, the consumers are alert of what is going on in their bank accounts. Another example of why online banking gives a better control for the consumers is the bank statements as they can be viewed, printed and downloaded at any time, instead of having to wait for a monthly statement which sometimes can be out of date by the time it is received. This helps the consumers to keep a track of their incomes and expenditures, which allows them to see where they stand financially and help them with budgeting. Another advantage of using the online bank statements instead of paper statements is that the consumers don't have to put up with piles of papers. This is also more environment friendly.

Low costs of opening, accessing and managing accounts

The fact that online banking is cheap or even free to use for the consumers is one of the biggest benefits because it saves them money as they often don't have to pay for opening or managing online bank accounts. Mols (1998) suggests that there are many benefits offered by internet banking to the consumers at lower rate.

Easy to use

The perceived ease of use impacts on consumer attitudes (Aslam et al., 2023). Online and mobile banking is fairly easy to use by consumers of nearly all ages. Because of its simplicity to use, it encourages consumers to use it. Rogers (1995) expresses that if it is complex, it would discourage the consumers to adapt to it. Therefore, banks are trying to make the online and mobile banking as easy to use as possible in order to attract the consumers and encourage them to use e-banking.

3.3. Attributes of online and mobile banking that influence consumer attitudes negatively

Despite the attributes of online and mobile banking that influence consumer attitudes positively, there are also attributes that influence consumer attitudes negatively. Although the number of internet users have continued to increase even during the mid-1990s when online banking systems were introduced in Europe and North America, the consumer acceptance of online banking wasn't as great as banks had first thought (Hosein 2009). This is because even though consumers have internet access and the means to use online banking, there are still a huge number of consumers who choose not to use internet banking for many reasons.

According to FED (2013), 57% of consumers do not use mobile banking because their banking needs are being met without mobile banking, 48% because they are concerned by security of mobile banking, 22% because they do not trust the technology to properly process their banking transactions, 18% due to high cost of data access of their wireless plan, and 17% due to difficulties in seeing through mobile phones screens. Other reasons given were difficult or time-consuming to set up mobile banking, no bank account for consumers, mobile banking not being offered by bank or credit unit and bank charging a fee for mobile banking. From these figures, the top two most popular reasons why consumers did not use mobile banking are that they felt that their banking needs are being met without the need for mobile banking and that they are concerned about the security of mobile banking.

Insecurity

Online and mobile banking is often seen to have certain issues with security. This is due to the nature of consumers having to enter sensitive information in order to gain access to their private and confidential accounts. This therefore influences consumers negatively and they may decide not to use electronic banking. Consumers' fear fraudsters, hackers and stolen identity and consequently banks need to put in processes which combat these issues. Mahmood (2009) examines what people think of electronic security and reports that thirty per cent of electronic banking users found security to be fair, 26% found it to be poor, 24% found it to be good and only 20% found it to be excellent. This therefore shows negative attitudes of a significant number of consumers towards online and mobile banking.

Waite and Harrison (2002) argue that the Internet is seen more as an information gathering tool, not as a financial purchasing tool, because of the fear and threat of security and online fraud. Internet security has always been a critical issue with online banking. This is one of the main reasons why consumers prefer to use traditional banking. When customers bank online, they need to feel secure and reassured that their personal and account details remain private and confidential. This finding is consistent with Luarn and Lin (2005) and Wang et al.'s (2003) research who found a significant direct relationship between perceived credibility and behavioural intention to use Internet and mobile banking.

However, many banks have attempted to overcome this attribute that causes negative consumer attitudes by introducing security measures and devices that allow only the owner of accounts to gain access to their own bank information online, this is done using personalised PINs (personal identification numbers) and devices. For example, Barclays bank introduced the 'PINsentry' which allows consumers to access their accounts and do transactions online and via mobile phones securely. It provides an additional layer of security for Barclays customers who wish to use online and mobile banking services. There are two ways to use PINsentry to protect consumer online banking transactions: PINsentry card reader and Mobile PINsentry, available as a feature of the Barclays Mobile Banking app (Barclays Bank 2023).

Reduced face to face interaction thereby impacting on social dimension

Often consumers want to have face to face interaction with a member of bank staff. For example, they may have a problem that may need to be explained to them directly by a staff member, problems tend to be easier to solve in person. If there is a mistake somewhere, a face-to-face discussion may be the most effective way to make progress when things are confusing for consumers. The desire to experience face to face interaction may compel some consumers to favour physical banks and could contribute to reduced use of online and mobile banking.

In traditional banks consumers are likely to have some familiarity with the staff and the staff will begin to get to know consumers well, therefore a positive relationship is created. Consequently, people who enjoy personal interaction or consumers with compliant personality may have negative attitude towards online and mobile banking as they seemingly tend to limit the face-to-face interaction opportunities. On the other hand, other people such as those with detached personality largely just want to get things done. For such people electronic banks are most efficient and suitable.

According to Mahmood (2009), when asked for the reasons for not using electronic banking, 29% of the respondents referred to a lack of social dimension meaning that there is a lack of face-to-face interaction available to consumers who opt to use electronic banking. This proportion is compared to 8% of the respondents who suggested internet limitations as a reason for not using electronic banking, and 15% of the respondents who indicated lack of the skills needed as the reason, while 48% constituted 'other', i.e., all other reasons that were suggest excluding the three mentioned.

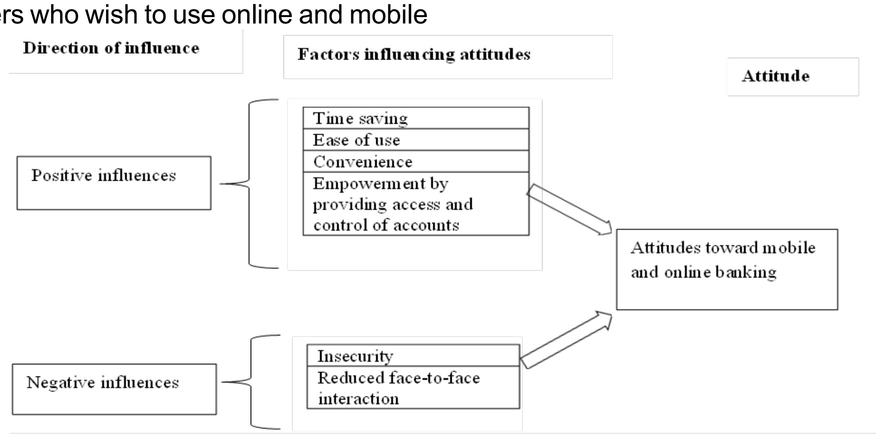

Figure 2: Factors influencing consumer attitudes toward online and mobile banking

3.3. Do attitudes towards online and mobile banking differ across different demographics?

Users of Internet and mobile banking across age groups and gender

According to Future Foundation (2011), most users of mobile phone banking in Britain belong to 25–34-year-old age group. They account for about 41% of the users. These are followed by the 35–44-year-old age group who account for about 22% of the users. This pattern is not much different from that of Finland and China. Souranta and Mattila (2004) report that majority of electronic banking users in Finland are middle aged. Thirty-three per cent of total users belonged to age group 25-34 years old while the 35–49-year-olds accounted for 30% of the users.

In China, Laforet and Li (2005) finds that Chinese online and mobile bank users were predominantly males, not necessarily young and highly educated, in contrast with the electronic bank users in the West. Nevertheless, in general, anecdotal sources indicates that the majority of users of mobile banking are relatively the younger generation. Young users appear to be more interested in electronic banking including Internet and mobile banking. The trend may change in future as the young generations who are technology savvy become older and hence all generations then will be comfortable and confident in use of both online and mobile banking. In Britain, 47% of users are female and 53% male – the proportions are comparatively not much different. These figures have been stated in the work of Future Foundation (2011). Future Foundation also analysed the data based on the way men and women bank using the mobile phone. Women tend to use Text banking for banking purpose, while men are more likely to use an Internet browser on smartphone. The way male and female use mobile phone banking does vary. Men are more likely to use mobile banking to check bank statements while women are using mobile banking to manage their expense, to control their finance and to avoid becoming overdrawn. For example, mobile banking is beneficial for women to check if they can afford an expensive item, to check bank balance after or while they shop or to check if banking balance nearly meets the limitation. Future Foundation (2011) further found that all users are most likely to use mobile banking between 9 o'clock in the morning and mid-day.

Occupation and social class

Future Foundation (2011) found that British mobile phone banking users are smartphone owners. They use phones such as Blackberry or iPhones. The research illustrates that those who belong to the ABC1 social class, make up 65% of total mobile banking users, based on occupation. The higher social groups are regular users of online and call-centre banking. The lower social grades – C2DE use bank branches with greater frequency. ATM use is less distinct between social grades.

Finnish mobile banking user is relative wealthy and highly educated. Surprisingly, results from reviewed studies indicate that mobile banker's occupation differ from that of Internet banker. The majority of mobile phone users were 'workers', accounting for 40.1% of all users. The next two biggest occupation groups were white-collar workers (19.6%) and students (10.5%). These results are distinct to the findings of Internet banking users, who have traditionally had university level education and higher professions according to the study by Jayawardhena and Foley (2000). In China, salaried employees accounted for 66.4% and Senior Managers for 12.5%, both occupations making up 79% of total electronic banking users (Laforet and Li 2005).

In summary, in relation to demographics, we find that typical electronic banking users in the world are young people between 25 to 34 years old. Holton (2011) reported that the number of young people who own a smartphone is increasingly managing their money via their phones, checking account balances and viewing transactions. The number of males is slightly higher than female mobile banking users. However, reasons for using mobile banking are significantly distinct between men and women. The regular mobile banking users belong to higher social grade. These are relatively wealthy and highly educated.

4. Conclusions

In terms of the characteristics of the studies which we reviewed regarding electronic banking, most of them were based on analysis of large survey data. This has a strength in generating relevant and credible findings and thereby enhancing the validity of the results. Most of the survey respondents were male. Regarding methods and techniques of data analysis, no trends were noted as studies opted to adopt distinct techniques that were relevant to their study objectives.

Our review suggests that the most common attribute of online and mobile banking that influence consumer attitudes positively and encourage them to use online banking is the fact that it is time saving. Consumers don't have to visit the bank branches to access and manage their bank accounts as it can be done in quicker way by using internet in the comfort of their own home, which also is much more convenient for them. Another main reason is that online and mobile banking gives the consumer better control of their bank accounts, mainly because they can access their bank statements at any time, which helps them to keep an eye on their financial position. Also, other qualities that influence consumer attitudes positively are that online and mobile baking is usually free of charge, and it is easy to use.

In contrast, we find that the most common attribute of online and mobile banking that influence consumer attitudes negatively and reasons why consumers don't use electronic banking services and prefer to use traditional banks is the fact that they are concerned with security. This is particularly because they have to enter confidential information which could potentially lead to fraud if it got into the wrong hands. Another reason is that many consumers who go to traditional banks prefer the relationship that they create with bank staff when they go in on a regular basis. For this reason, they prefer not to use electronic banking as there is lack of a social dimension, meaning that consumers do not get the face-to-face interaction which they most desire.

For banks to perform better and attract more customers to use their online and mobile banking services there are many methods that we think they should consider. Firstly, after reviewing attributes of online and mobile banking that influence consumer attitudes negatively, we recommended that banks look seriously at and improve their security with electronic banking. They should also reassure customers that the confidential and sensitive information that they are inputting in the online and mobile banking systems is in fact safe and secure, for example the 'PINsentry' device that Barclays bank has implemented. If consumers are aware confident of security precautions that banks are putting in place, it is likely that this may encourage them to use mobile and online banking, therefore increasing the number of consumers using these electronic services. Furthermore, investing in new technologies may contribute to development of a competitive advantage (Hoffman et al., 2022).

We also believe that banks should educate their consumers on how to use online and mobile banking to increase the uptake of consumers using this service. For example, there could be leaflets and information on the benefits and how to use electronic banking in the banks themselves or they could be posted to the consumers with incentives for them to read. To strengthen this, advisors could be available in banks to advise and educate consumers who may want to use online and mobile banking services but are unsure how.

Finally, we believe that banks should make people more aware of electronic banking and the services that they can do for themselves rather than having to go into a traditional bank. They could do this through advertising and targeting people who currently don't use electronic banking. This will certainly change and negative attitudes towards online and mobile banking and encourage a higher uptake of the service.

Although our review of literature was comprehensive, having included a lot of research findings from many different journal articles and other research works, still some areas were not fully analysed. First, most of our reviewed studies focused on electronic banking in general and not to the level of individual banks offer, yet most of the banks tend to be really big with wide network. It was therefore difficulty to analyse the review across various bank brands. The attributes which influence positively or negatively the attitudes may change depending on the individual banks. An opportunity for further research could be to look in more detail into individual banks or brands to provide more complete results. Second, the findings of this work are based on studies that were published during the period between 2002 and 2011. It would be interesting to review literature that have been published thereafter and to compare if the attitudes and the influencing factors differ.

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