

# The impact of online banking attributes on customer satisfaction: A study from the Irish retail banking customer perspective

Sagar Singh Kirpalsingh Rajput

**MASTER OF SCIENCE IN MANAGEMENT**

**NATIONAL COLLEGE OF IRELAND**

**Submitted to the National College of Ireland  
on  
20<sup>th</sup> August 2019**

## **Abstract**

---

This paper investigates the impact of online banking attributes on customer satisfaction from the Irish retail banking customer perspective. With rapid technological advancements in the banking industry, it is essential to understand the key online banking attributes which can help banks to meet the specific needs of the customers and enhance customer satisfaction. The five most relevant online banking attributes identified from the literature were Ease of Use, Reliability, Efficiency, Convenience, and Security, a model proposed by Gunawardana, Kulathunga and Perera (2015). Demographic aspects of online banking users, particularly gender and age are also considered for this research. A mixed-method approach of a self-administered questionnaire survey was used to achieve the research objectives. Fifty-two participants were surveyed in the IFSC, Dublin, based on simple random and convenience sampling method. The respondents were asked to rate each attribute on a Six-point scale. The collected data was analyzed through an Excel file. The findings indicate that all five online banking features positively impacted customer satisfaction, whereas the reliability and convenience are the most dominant factors, and security attribute remains a concern for the customers in Ireland. Thus, Irish retail banks need to provide innovative and secured online services to enhance customer satisfaction. This research concentrates on the Irish retail banking customer perspective to investigate the impact of online banking attributes on customer satisfaction. Therefore, the study limits its applicability to various banks globally. However, replicating the study in other countries can further enhance this robustness. This paper contributes to earlier research by adding to current knowledge in relation to the online banking attributes and customer satisfaction. The research paper makes important recommendations for better retail online banking services in Ireland to improve customer satisfaction and thereby retain customers.

### **Keywords:**

Online banking, Customer satisfaction, Customers Perspective, Retail banking, Ireland

# Declaration

---

## Submission of Thesis and Dissertation

National College of Ireland

### Research Students Declaration Form

**Name:** Sagar Singh Kirpalsingh Rajput

**Student Number:** x17128790

**Degree for which thesis is submitted:** Master of Science in Management

#### Material submitted for award

- (a) I declare that I have composed the work.
- (b) I declare that all verbatim extracts contained in the thesis have been distinguished by quotation marks and the sources of information specifically acknowledged.
- (c) My thesis will be included in electronic format in the College Institutional Repository TRAP (thesis reports and projects)
- (c) ***Either*** \* I declare that no material contained in the thesis has been used in any other submission for an academic award.

***Or*** \* I declare that the following material contained in the thesis formed part of a submission for the award of

---

*(State the award and the awarding body and list the material below)*

**Signature of research student:** Sagar Singh Kirpalsingh Rajput

**Date:** 20/08/2019

# Submission of Thesis to Norma Smurfit Library, National College of Ireland

---

Student name: Sagar Singh Kirpalsingh Rajput Student number: x17128790

School: National College of Ireland Course: MSc. in Management (2018-2019)

Degree to be awarded: Master of Science in Management

Title of Thesis: The impact of online banking attributes on customer satisfaction: A study from the Irish retail banking customer perspective

One hard bound copy of your thesis will be lodged in the Norma Smurfit Library and will be available for consultation. The electronic copy will be accessible in TRAP (<http://trap.ncirl.ie/>), the National College of Ireland's Institutional Repository. In accordance with normal academic library practice all theses lodged in the National College of Ireland Institutional Repository (TRAP) are made available on open access.

I agree to a hard bound copy of my thesis being available for consultation in the library. I also agree to an electronic copy of my thesis being made publicly available on the National College of Ireland's Institutional Repository TRAP.

Signature of Candidate: Sagar Singh Kirpalsingh Rajput

For completion by the School:

The aforementioned thesis was received by \_\_\_\_\_ Date: \_\_\_\_\_

This signed form must be appended to all hard bound and electronic copies of your thesis submitted to your school

## Acknowledgements

---

I wish to express my sincere gratitude to all those who made this dissertation possible.

To my supervisor Mr. Maurice Fitzgerald, for constantly guiding and supporting through every phase of the research process. With his consistent encouragement and positive attitude enabled the completion of this research paper.

To Mr. Keith Brittle and Ms. Cory Newbigging, for their continuous support, with whom I frequently interacted with copious queries. I am also thankful to all the NCI library staff members for providing their assistance.

To our lecturers and staff of NCI, for providing every possible support and their expertise.

To my class for a wonderful year. It was enjoyable and worthwhile to have so many new friends.

Finally, to my parents for their unconditional and endless support and providing me so many opportunities in life. Thank you.

## Table of contents

---

Abstract.....	i
Declaration.....	ii
Submission of Thesis to Norma Smurfit Library, National College of Ireland .....	iii
Acknowledgements .....	iv
List of Tables .....	viii
List of Figures .....	viii
List of Abbreviations.....	ix
Chapter 1 - Introduction .....	1
Chapter 2 – Literature Review.....	4
2.1 Introduction.....	4
2.2 Banking industry .....	4
2.2.1 Banking industry in Ireland .....	4
2.3 Retail banking.....	6
2.3.1 Digitization of retail banking services.....	8
2.4 Definition of online banking.....	9
2.4.1 Online banking landscape in Ireland.....	10
2.5 Customer satisfaction and banking.....	12
2.6 Customer satisfaction in online banking services.....	12
2.7 Online banking attributes and customer satisfaction .....	13
2.7.1 Ease of use .....	15
2.7.2 Reliability .....	16
2.7.3 Efficiency .....	16
2.7.4 Convenience .....	17
2.7.5 Security.....	18
2.8 Conclusion.....	19
Chapter 3 – Research Questions .....	21
3.1 Introduction.....	21
3.2 Research aims and objectives .....	21
3.3 Research questions.....	21
Chapter 4 – Research Methodology.....	23
4.1 Introduction.....	23
4.2 Research framework .....	23
4.3 Research philosophy .....	24
4.4 Research approach .....	24
4.5 Research strategy .....	26

4.6 Research choice.....	26
4.6.1 Time horizons .....	28
4.7 Secondary data collection.....	28
4.8 Primary qualitative data collection.....	29
4.9 Population .....	29
4.10 Qualitative data analysis .....	29
4.11 Primary quantitative data collection .....	29
4.12 Sample size .....	31
4.13 Quantitative data analysis.....	32
4.14 Ethical considerations.....	33
4.15 Research limitations .....	34
4.16 Conclusion.....	34
Chapter 5 – Analysis and Findings.....	35
5.1 Introduction.....	35
5.2 Data analysis .....	35
5.2.1 Questionnaire response rate .....	35
5.2.2 Background Information .....	36
5.2.3 Online banking customer satisfaction .....	38
5.3 Findings.....	39
5.3.1 Findings of the quantitative research.....	39
5.3.2 Findings of the qualitative research .....	47
5.4 Key findings and conclusion .....	48
Chapter 6 – Discussion .....	50
6.1 Introduction.....	50
6.2 Objective 1 .....	50
6.2.1 Reliability and Convenience .....	50
6.2.2 Ease of Use .....	51
6.2.3 Efficiency .....	51
6.2.4 Security.....	51
6.3 Objective 2 .....	52
6.3.1 Security Vs Convenience .....	52
6.4 Objective 3 .....	53
6.5 Conclusion.....	54
Chapter 7 – Conclusions and Recommendations.....	55
7.1 Introduction.....	55
7.2 Conclusions.....	55
7.2.1 Banking and technology .....	55
7.2.2 Role of online banking and impact on customer satisfaction .....	55

7.2.3 Research model development.....	56
7.2.4 Focus on online banking attributes.....	56
7.2.4 Address changing demographic needs .....	57
7.2.5 Overall outcome .....	57
7.3 Recommendations for future research.....	59
References .....	61
Appendix.....	73



## List of Tables

Table 1: Irish retail banks assets and profits .....	6
Table 2: Retail bank products and services .....	6
Table 3: Internet users in Europe .....	8
Table 4: Advantages and Disadvantages of online banking .....	19
Table 5: Types of study .....	25
Table 6: Likert scale .....	31
Table 7: Ethical steps taken .....	33
Table 8: Questionnaire response rate .....	35
Table 9: Use of online banking services .....	37
Table 10: Respondents bank details .....	38
Table 11: Overall customer satisfaction .....	38

## List of Figures

Figure 1: Ireland banks industry value: \$ billion, 2012–16 .....	5
Figure 2: Retail banking features .....	7
Figure 3: Retail banking system .....	7
Figure 4: Retail banking system .....	7
Figure 5: Online banking facilities .....	10
Figure 6: Key Payments Trends H1 2018:.....	11
Figure 7: Reason for using offline services.....	11
Figure 8: Research model.....	15
Figure 9: The research 'onion'.....	23
Figure 10: The process of deduction .....	25
Figure 11: Methodological choices .....	27
Figure 12: Convergent Parallel Mixed Methods.....	27
Figure 13: Types of secondary data .....	28
Figure 14: Types of questionnaire .....	30
Figure 15: Sampling process.....	32
Figure 16: Gender of respondents.....	36
Figure 17: Age distribution .....	37
Figure 18: EOU1 findings.....	40
Figure 19: EOU2 findings.....	40
Figure 20: RE1 findings.....	41
Figure 21: RE2 findings.....	42
Figure 22: EF1 findings.....	43
Figure 23: EF2 findings.....	43
Figure 24: CE1 findings.....	44
Figure 25: CE2 results .....	45
Figure 26: SE1 findings.....	46
Figure 27: SE2 findings.....	46

## List of Abbreviations

Abbreviations	Descriptions
AIB	Allied Irish Bank
BOI	Bank of Ireland
BPFI	Banking and Payments Federation Ireland
CE	Convenience
CSO	Central Statistics Office
e-banking	Electronic banking
EF	Efficiency
EOU	Ease of use
Eurostat	European Union's statistics office
H1	First half of the financial year
RE	Reliability
SE	Security

## Chapter 1 - Introduction

---

The banking industry is rapidly improving the use of online banking as a viable and efficient tool to build customer value. The recent emergence of electronic commerce has led numerous banks to transform traditional “bricks and mortar” to “clicks and mortar” (Agarwal and Kothari, 2018). Globally, electronic banking (e-banking) systems are expanding, specifically in developed countries to progress towards a cashless economy by introducing cards (plastic money) and internet (digital money) systems (Sandada, Simbarashe and Shamhuyenhazva, 2016). Internet banking is one of the forms of e-banking (George and Kumar, 2014). Furthermore, Malik and Oberoi (2017) and Isac and Drigă (2015) mentioned internet banking is also known as online banking; and has developed as a new innovative distribution channel for banking services as an essential requirement to sustain business competitiveness. In general, the banks have adopted online banking as an e-commerce tool which has led to enormous improvement to banking operations and services, especially in cost reductions, also enabling customers to perform banking services “anytime and anywhere” (Salimon, Yusoff and Mohd Mokhtar, 2017). With constant technological innovation, banks are able to provide a wide range of products and services through an electronic channel to retail customers (Mutesi, Mutingi, and Chakraborty, 2016). The utilization of such new disruptive technologies has accelerated changes in the banking processes and customers are swept with such transformations (Rahi, Ghani and Alnaser, 2017).

According to Sikdar, Kumar and Makkad (2015) online banking has led to enhanced service quality and delivery of services within the banking sector. Online banking is gaining increasing popularity mostly among retail customers as it serves as a convenient alternative service channel which has resulted to attract customers to use online banking (Seyal and Rahim, 2011). Excellent service quality results to generate customer satisfaction, and with satisfied customers, the customers will remain loyal to the offered banking services (Assegaff, 2016). Additionally, Shanka (2012) mentioned satisfaction is a crucial scale of how aptly customer demands and needs are met. Furthermore, the author also suggests that quality of service is specifically essential in relation to banking service context as it provides higher satisfaction level and thus becomes vital to competitive advantage and results in customer retention. However, Munusamy, Chelliah and Annamalah (2014) argue that customers are becoming more value-sensitive, thus, banks should continually innovate and update to meet customer expectations and offer reliable, convenient and expedient services. Liébana-Cabanillas *et al.* (2016) addressed that growing competition and current technological advancement has resulted in increasing attention to satisfaction in the banking sector. In contrast, Liang and Nguyen (2018) argue that though the growing need to execute online financial transactions may provide a better opportunity to deploy in online banking services, banks might encounter

difficulties to promote online services to customers if it does not satisfy customer needs. Thus, Daneshvar and Ramesh (2011) mention that success in online banking business relies on recognizing the main factors in determining customer satisfaction and quality of services. Additionally, Mutesi *et al.* (2016), also suggests that it is important for online banking service providers to acquire more information about their customers to improve the delivery of services. Therefore, banks need to understand the user concerns related to banking service quality in order to maintain positive customer perspective of online banking services (Liang and Nguyen, 2018).

Globally, banking institutions invest in technological resources to achieve a competitive edge, however, the realization of desired outcomes of a greater level of customer satisfaction and use of technological resources relies on the consumption rate of the resources (Sharma and Govindaluri, 2014). In their research, Safeena, Kammani and Date (2014) have highlighted that while online banking has increased rapidly, there is lack of evidence of its acceptance among consumers, half of the individuals that have used online banking services will turn inactive users. Additionally, they also indicated that due to publicized issues relating to security failures have resulted in people's concerns of internet banking acceptance. Moreover, the main issue is with the customers due to lack of experience about the online banking convenience, thus, users still prefer brick-and-mortar banking services due to lack of confidence with online banking (Paul, Noufal and Fasana, 2017).

Taylor (2018) reported that the 2017 European Union's statistics office (Eurostat) data indicated 58% of Irish citizens used online banking which was above the EU average of 51%. However, at a European level, the usage of internet banking services remained below Scandinavian and Benelux countries (Banking and Payments Federation Ireland (BPFI), 2018). On the other hand, the internet user in Ireland is more than 80% and expected to increase rapidly (Eurostat, 2018). Besides being in a better position in Europe, Ireland is still below other European countries and have a huge potential of improving online banking considering the difference between internet and online banking users.

Zhu and Chen (2012) have highlighted that despite the prevalent use of online banking, our understanding of the drivers of customer satisfaction with online banking is limited, as the academic research of the determinants of customer satisfaction with online banking are comparatively lacking. Extensive work of literature is also available on measuring the relation between traditional banking services and customer satisfaction and limited research is devoted to identifying the impact of online banking on customer satisfaction (Heidari, Mousakhani and Rashid, 2014). Additionally, customers in several countries have different perspective of quality of services (Sadeghi and Hanzae, 2010). Seyal and Rahim (2011) also propose that online banking customer satisfaction may also be influenced by demographic

profile, as literature suggests that demographic factors often impact the acceptance of new innovations. Therefore, it is extremely essential for banks and researchers to assess the impact of online banking attributes and customer satisfaction from the retail banking customer perspective.

George and Kumar (2014) mentioned in the literature that any individual attribute would not suffice to provide an ideal representation of customer satisfaction. Therefore, this study adopted the model proposed by Gunawardana *et al.* (2015) that tested the impact of retail banking self-service technology attributes on customer satisfaction. Therefore, the purpose of this study is to extend the focus to specifically examine whether the specific online banking attributes such as ease of use, convenience, efficiency, reliability, and security can enhance customer satisfaction from the Irish retail banking customer perspective through a survey-based mixed method approach. Consequently, this study provides an understanding of the significance of online banking attributes on customer satisfaction. The following research objectives have been placed to structure this research and provide an outlet for this research.

- To examine the impact of online banking attributes (ease of use, convenience, efficiency, reliability, and security) on customer satisfaction.
- To explore and identify which online banking attribute is more influential to attain customer satisfaction.
- To identify the influence of demographic factors, particularly gender and age, on online banking use and customer satisfaction.

This dissertation especially focuses on how online banking attributes can enhance customer satisfaction enabling to improve the use of online banking services in Ireland.

In order to present this research in clear and coherent way, the dissertation is organized as follows. Chapter Two present the available literature on retail online banking attributes and its impact on customer satisfaction that is valuable for the present study. Chapter Three elaborates the research aims and objectives of this study. Chapter Four provides the research methodology applied for this study and the choices utilized in relation to research philosophies, approaches, strategies, time horizons and also highlights limitations of this study. The aim of this study and the selected size of sample are also considered. Chapter Five presents the findings of this study. In Chapter Six, the findings are discussed in detail and also provide the implications of the study. Finally, Chapter Seven provides the conclusion for this research and future recommendations.

## Chapter 2 – Literature Review

---

### 2.1 Introduction

This section provides an overview of banking products and services offered to their target customers. It also examines the customer perspective of key online banking attributes that impacts customer satisfaction. This section is structured as follows. Firstly, it provides an overview of the banking industry and the effects of technological factors on the banks, and also highlights the Irish banking industry. Secondly, it provides a brief description of retail banking. The third section highlights the digitization of retail banking services. The fourth section provides a description of online banking and the changing online banking landscape in Ireland. The fifth section discusses the importance of customer satisfaction in banking. In the sixth section, the key attributes of online banking services and its impact on customer satisfaction are discussed in detail. The final section concludes the need to evaluate the online banking attributes and its impact on customer satisfaction.

### 2.2 Banking industry

The economic development of the country can have a significant affect through efficient financial services. An effective banking system significantly impacts a country's development in several sectors of the economy (Lau *et al.*, 2013). The conventional banking function includes lending money and deposits through loans and advances (Shetty and Sumalatha, 2015).

The banking industry is more customer driven, the survival and growth majorly depend on the services delivered by banks to their customers (Khan, Mahapatra, and Sreekumar, 2009). Banks are consistently working on satisfying the needs of their customers by providing superior services (Chandok and Gupta, 2013). Bakar, Clemes, and Bicknell (2017) mention that the banking industry world is consistently changing and has experienced a dramatic transformation in recent years for various reasons, e.g., globalization and financial deregulation, technological advancements and changes in customer demands for banking products and services. In the global market, banking industry practitioners face a complex challenge. Therefore, it is essential for banks to realize the changing customer needs and adopt advanced information technology to effectively compete with global organizations (Lau *et al.*, 2013).

#### 2.2.1 Banking industry in Ireland

A 2018 report published by the European Banking Federation reported 58 operating banks in Ireland at the end of 2017 (O'Brien, 2018). Furthermore, the Corporate Finance Institute

(2019) stated that Central Bank of Ireland (CBI) regulates the Irish banks for maintaining traditional central banking functions. Irish banks consist of two groups:

- i. Retail banks which offer general banking services.
- ii. Banks that work in the international financial services center (IFSC).

The economic growth rate in Ireland doubled between 1990 and 2007 (McMahon, 2011). However, according to MarketLine (2017), Ireland was seriously impacted by the worldwide economic crisis of 2008/2009. In 2008, Ireland suffered a financial crisis due to instability, market failure and a regulatory crisis (O'Sullivan and Kinsella, 2011). Nevertheless, in March 2015, as illustrated in Figure 1 below, Moody's credit ratings agency regarded Ireland's banking industry as 'stable', and further in December 2015 was upgraded as 'positive' (MarketLine, 2017).



Figure 1: Ireland banks industry value: \$ billion, 2012–16  
Source: (MarketLine, 2017)

Since the mid-1990s, the Irish economy has been able to attract several financial institutions such as RBS, Depfa Bank, Citi Bank and so on (O'Sullivan and Kennedy, 2010). However, traditionally the banking system in Ireland has been very concentrated consisting of the three largest banks holding 70% and more of the overall market share (Beck, 2014). Allied Irish Bank (AIB) and Bank of Ireland (BOI) are the most dominant retail banks in Ireland (O'Halloran, 2018; White, 2018). Furthermore, The Irish Times (2019) reported five major retail banks in Ireland, Table 1 below illustrates the data.

<b>Banks in Ireland</b>	<b>Assets (Billion)</b>	<b>Profits (Million)</b>
Bank of Ireland	€123	€835
AIB	€91.5	€1200
Ulster Bank	€31.8	€122
Permanent TSB	€21.8	€3
KBC Bank Ireland	€12.1	€187.6
<b>Total</b>	<b>280.2</b>	<b>2347.6</b>

Table 1: Irish retail banks assets and profits  
Source: (The Irish Times, 2019)

As per Loonam and O'Loughlin (2008), changes in the banking industry in Ireland are largely due to factors such as automation, customer convenience, regulatory obligation for systems security and competition from other non-banking entrants.

### 2.3 Retail banking

Retail banking is referred to as the provision of financial services to individual customers. Belás (2007) explains that the banking industry contains a dozen businesses, such as investment banking, corporate banking, retail banking and so on. Retail banking offers a large range of products and services as illustrated below in Table 2.

<b>Products and services</b>			
Savings / current account	Fixed accounts	Credit cards	Debit cards
Personal loans	Mortgage loans	Consumer durable loans	Deposits
Auto finance	Insurance products	Capital market products	

Table 2: Retail bank products and services

Belás (2007) describes retail banking as categorized by the following features (refer Figure 2), and its objective is to gain profits by satisfying customer needs (refer Figure 3)





Figure 2: Retail banking features

Source: (Belás, 2007)

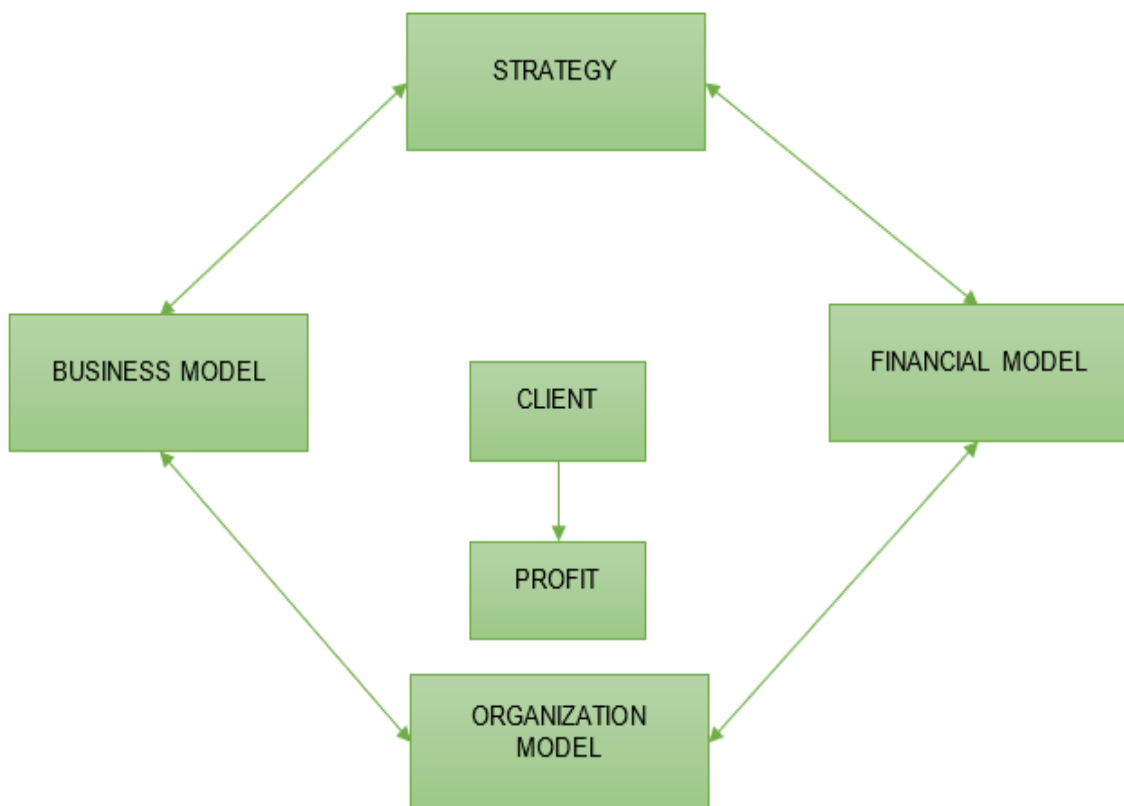


Figure 3: Retail banking system

Source: (Belás, 2007)

According to Singh (2014), retail banking services are typically offered at the physical brick and mortar branches and at the ATMs. However, Patnaik, Satpathy and Samal (2017) argue that retail bank delivery channels are now no longer limited to ATMs and branches but have also extended to the internet which is the fastest growing channel. Some western retail banks solely operate through the internet. For instance, the introduction of new online banks like N26 and Revolut have increased competition for traditional banks for specific banking services

(Cradden, 2019). Online services provide less human interaction, convenience, cost-benefit and more controlled process services. The traditional banking aspects of cordiality, cleanliness, courtesy, comfort and attention is eliminated through online services (Goswami, 2013). For the banks, online services are an attractive channel as they may reduce the human-staffed services variable costs to initial fixed cost technology infrastructure, thereby providing economies of scale to banks.

### 2.3.1 Digitization of retail banking services

The growing competition, changing customer preferences, uprising technology, and future opportunities have resulted in the restructuring of banking services and the adoption of new practices. Retail banking is one such banking sector which is undergoing sweeping changes due to the initiation of modern technology and heightened competition (Chandok and Gupta, 2013). During the last few decades, service organizations, including retail banks, have concentrated more on their distribution channel strategies due to major trends in technology innovation and deregulation (Daneshvar and Ramesh, 2011).

Currently, the internet is both a medium of communication and a marketing channel, and a major source for gathering information. Internet users worldwide have surpassed the three billion mark (Ahmad, Rahman and Khan, 2016). Table 3 below displays the percentage of internet users in selected European countries (Eurostat, 2018). From Table 3, it can be observed that in the span of 12 years, the number of internet users has increased rapidly.

Internet Users (% of people with internet access)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union - 28 countries	57	61	65	68	71	73	75	78	79	82	84	85
Ireland	58	63	65	67	75	77	78	80	80	82	81	82
United Kingdom	72	76	82	83	85	87	90	92	92	95	95	95
Germany	72	75	77	80	81	82	84	86	88	90	90	92
Belgium	67	69	75	78	82	81	82	85	85	87	88	89
Luxembourg	78	81	86	90	90	92	94	95	97	97	97	97
Netherlands	84	87	89	90	91	93	94	93	93	93	95	95
Denmark	81	84	86	88	90	92	95	96	96	97	97	98
Sweden	80	88	90	91	93	93	95	93	91	93	96	92
Norway	85	89	91	93	93	95	95	96	97	97	98	97
Spain	51	56	59	64	66	69	72	76	79	81	85	86
Italy	38	42	46	51	54	56	58	62	66	69	71	74

Table 3: Internet users in Europe  
Source: (Eurostat, 2018)

In recent years, banking via electronic channels has gained growing popularity. The digital technologies provide efficiency, security and increases the speed of banking operations and services (Sajić *et al.*, 2018). The key aspect for all such efforts is to provide better customer services and satisfaction (Shetty and Sumalatha, 2015). The changes in all such process have resulted in the transformation of classical retail financial banks into modern digital retail banks and provide several benefits to banks and their customers (Sajić *et al.*, 2018). On the other hand, with increasing technology innovation, security is a major concern for banks. Therefore, retail banking companies need to undertake measures to avoid data breaches of their customers (Business Wire, 2019). However, Belás (2007) argue that if the security aspect of the internet channel increases, it will obtain its dominance specifically in the sale of mass products and services. It will probably be the biggest growth for retail banks in online banking.

## **2.4 Definition of online banking**

Online banking is becoming a vital part of modern-day banking services due to the rise in the usage of technology. Online banking is defined as an internet portal, wherein consumers can perform several banking services. Except for cash withdrawals, it enables customers to perform or access any banking transactions at the click of a mouse (Ahmad and Al-Zu'bi, 2011). Sikdar *et al.* (2015) state that online banking constitutes a blend of conventional banking and web-based technology which is being progressively utilized by banking sectors worldwide. In addition, Paul, Noufal, and Fasna (2017) mentioned online banking allows the customer to perform the following key activities as highlighted in Figure 5 below.



Figure 5: Online banking facilities

According to Shetty and Sumalatha (2015), online banking is similar to normal banking, with one exception, customers do not go to the bank for transactions. Online banking eliminates personal interaction with bank officials as customers perform services via the internet (Liao, Huang, and Hsieh, 2016).

#### 2.4.1 Online banking landscape in Ireland

A report regarding on online and mobile banking, published by the Banking & Payments Federation Ireland (BPFi) (2015), indicated that approximately over one million online or mobile banking logins were observed every day in 2014, and 44 million online banking payments were executed in the year 2014. Furthermore, as outlined in Figure 6, the BPFi Payments Monitor report (2018) disclosed that digital banking transaction volumes, consisting of online and mobile banking, increased by 18.4% year-on-year in first half (H1) of the 2018 financial year. Internet banking usage was the highest amongst individuals aged 30-44 representing 83% of overall online usage, and 81% consisted in the Midlands, according to the Central Statistics Office (CSO) (2018). Reports discovered that, in 2017, 58% of Irish citizens used online banking which was above the EU average of 51% (Taylor, 2018). At a European level, internet banking service utilization in Ireland was on par with Switzerland,

	YoY volume change
Contactless credit/debit card payments	66.3%
Digital banking payments	18.4%
Credit/debit card payments	19.9%
Domestic cheque	-10.3%
Domestic direct debit	1.0%
Worldwide credit transfer	5.2%

Note: Digital banking transactions are credit transfers initiated through personal online or mobile banking. Figures are partially estimated.

Figure 6: Key Payments Trends H1 2018:  
Source: BPFI (2018)

France, and the UK but stayed behind Scandinavian and Benelux countries (BPFI, 2018). Additionally, Eurostat (2018) revealed that in the last ten years online banking usage doubled in Ireland. The Department of Communications, Climate Action and Environment (DCCAE) (2019) also reported that the digital and internet consumption in the Irish economy has experienced circa 40% growth since 2012.

On the contrary, UPC and Amarach Research (2014) highlighted that some Irish customers still resist usage of online services and preferred branch banking with security and trust as an issue for online banking. Figure 7 below exhibits the results of a conducted sample survey of 1000 individual adults in Ireland.

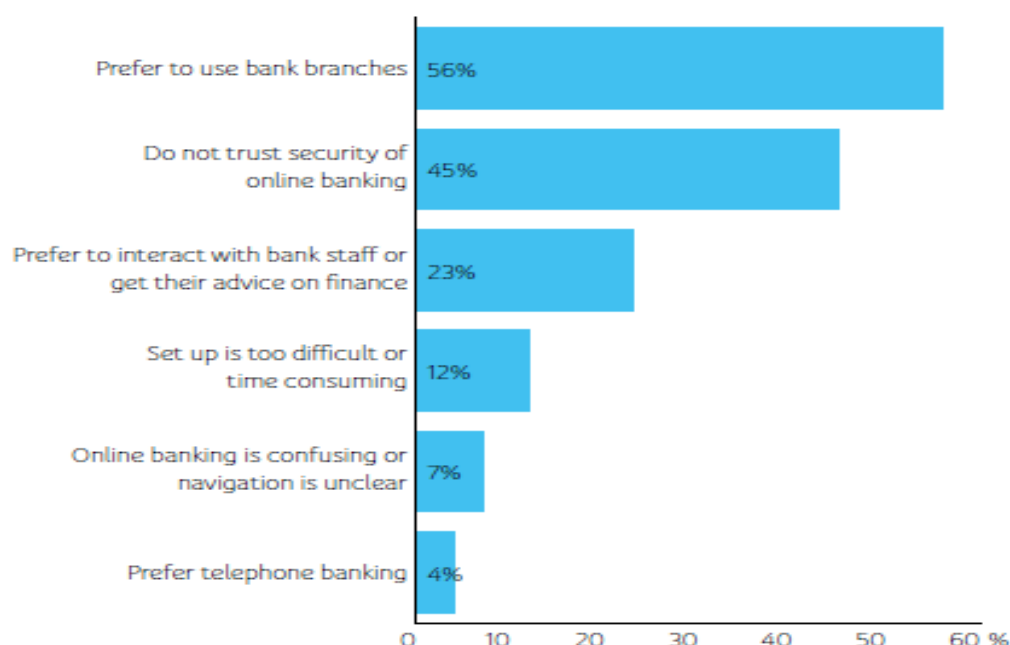


Figure 7: Reason for using offline services  
Source: - The Second UPC Report on Ireland's Digital Future (UPC and Amarach Research, 2014)

Ochuko, Cullen and Neagu (2009) also observed that despite growing numbers of banks offering online banking services and growing worldwide internet utilization, customers still prefer physical branch banking for communicating with banks for required services. Therefore, it can be stated that people in Ireland are utilizing online banking services more regularly as more banks provide online services, but, further improvements are required to develop trust in online systems.

## **2.5 Customer satisfaction and banking**

The concept of satisfaction has been defined by several authors in numerous ways. Saha and Zhao (cited in Ismail and Alawamleh, 2017, p. 3) defined satisfaction as the “result of perception, assessment and mental responses to the utilization experience with a product or service”. According to Kumbhar (2011), customer satisfaction is an abstract and ambiguous concept. The author suggests that the level and experience of satisfaction will differ between various individuals, products and services. The customers are satisfied if the perceived performance of products and services meets or exceeds their expectations (Hamzah, Lee and Moghavvemi, 2017; Amin, 2016). Satisfaction can lead to intention to repurchase, revisit, and loyalty resulting in higher profits (Narteh, 2018; Ofori *et al*, 2017; Mandal, 2016; Yoon, 2010).

In present-day business management, customer satisfaction is considered as one of the vital aspects to gain competitive advantage and company profitability (Gašević, Vranješ and Drinić, 2016). In retail banking, customer satisfaction plays a key role as it leads to customer retention (Kaur and Kiran, 2015). Given that banks offer almost identical products and services, banks have made several efforts to justify distinction and customer preference in line of satisfaction that customers encounter with the services offered thereby increasing the retention rate (Liébana-Cabanillas *et al.*, 2016). Hamzah *et al.* (2017) also observed that customers who are satisfied are more willing to provide referrals, pay premiums, and buy more products, and preferably would continue business and recommend to their acquaintances about their respective banks. Thus, retail banks have taken measures to determine customer satisfaction and delivered service quality to identify how well the customer needs and requirements are met (Mishra, 2010). The satisfaction of the customers mainly depends on the benefits of products and services provided by the banks.

## **2.6 Customer satisfaction in online banking services**

It is essential to place emphasis on online banking customer satisfaction as a large number of users around the world use online banking services. According to Ayo *et al.* (2016), in the digital era, electronic service quality is crucial to attract and retain customers for the banking sector for long-term benefits. Furthermore, Malik and Oberoi (2017) have stated that online banking is an intangible service in nature; therefore, the banks are emphasizing more on

customer satisfaction and service quality to improve customer retention. Academics and researchers have conflicting ideas about customer satisfaction and service quality. Some have suggested customer satisfaction as an antecedent of quality services and vice versa. However, in the banking sector, it has been mentioned that the accessibility and convenience of online banking services lead to customer satisfaction and retention (Amin, 2016; Kundu and Datta, 2015). John (2015) sheds more light by addressing that the perception of the customer related to a product or services is built on the quality of the product or services. Kumbhar (2011) suggested that to attain customer satisfaction one of the main factors required is quality of service and it can be boosted by utilizing advanced information and communication technology (ICT). Therefore, almost all banks have almost adopted ICT to improve the quality of services to provide e-services to customers, also referred to as online banking.

According to Roche (cited in Shrimali, 2015, p. 92) "Service quality is a pre-requisite for customer satisfaction and in a virtual environment the task becomes even more challenging to banks". Ochuko *et al.* (2009) mentioned that the major concerns for online banking is, not only gaining new customers, but also retaining them. It has been observed that banks may incur cost five times more for acquiring a new customer as compared to retaining the current ones (Liébana-Cabanillas *et al.*, 2016). Therefore, Gašević *et al.* (2016) mentioned that e-banking, as an important aspect of the overall bank business strategy, delivers a better quality of services and therefore results in a high level of customer satisfaction. In addition, they also highlighted the American Customer Satisfaction Index (2011) report, wherein 55% of customers mostly preferred online banking as compared to other banking channels. Correspondingly, the report has cited that electronic banking levels of satisfaction were approximately 20% higher as compared to banking in general (Gašević *et al.*, 2016). Thus, it is extremely vital to measure online banking customer satisfaction to identify the attributes that define it.

## **2.7 Online banking attributes and customer satisfaction**

Online banking provides services to customers; therefore, it performs an important role in customer satisfaction. According to Ling *et al.* (2016), retail banks in many developed countries offer online banking which enables the customer to transact and perform services from their home or workplace more efficiently. Makarević, Secim, Toycan (2014) also suggested that post using e-banking services customers find it easy to use again since it reduces the time of the customer. Furthermore, they have also observed the satisfaction of customers differs according to gender, age, and several demographic factors. On the contrary, despite the aforementioned benefits, a large group of consumers have displayed hesitance to utilize internet banking services. Consumers might have concerns utilizing the internet for

banking, highlighting customer perception about the ease related with such use, the essential skills, infrastructure (e.g. internet, computers, etc.), security risk, the service effectiveness and the familiarity of online transfer (Tarhini *et al.*, 2016). Therefore, measuring customer satisfaction can help to detect areas that need to be improved. Banks who fail to measure, fall short on important aspects and lose the opportunity to identify and resolve difficulties faced by customers, thus resulting in the loss of clients (Ivanovska and Pavlovska, 2017). Yuen, Yeow and Lim (2015) reported that in 2009 worldwide internet banking revenue diminished 1.4 percent in North America, 6.1% in Europe, and 2.3% in Asia. One of the primary reasons of the reduction was a lack of understanding of customer preferences for internet banking. In addition, Mandal (2016) also signified that globally 8% of customers are yearly lost by the banks. Thus, it is tremendously important to address online banking dimensions and measurement to identify the issue of customer satisfaction in retail banking. This would enable banks to build strategies and plans to hold existing customers and attract new customers. According to research, it has been observed that a 1% growth in current internet banking customer retention could lead to a reduction in operation costs by 18% (Yuen *et al.*, 2015).

In developed countries, over recent years, various research has been conducted on internet banking adoption. The majority of the studies used and focused on the Technology Acceptance Model (TAM) based model to identify the influence of varied factors on behavioural intentions and attitudes to adopt the technology (Patel and Patel, 2018). Eze *et al.* (2011) also examined significant factors that influence internet banking adoption, the study focused on the younger population and considered them as a major target group by banks for internet usage. Raza, Jawaid and Hasan (2015) also support the fact that different studies conducted related to the customer's attitude and their adoption of online banking services. However, when the adoption of online banking is analyzed, attributes such as privacy, security and trust are described as significant factors from the customer's viewpoint. Shrimali (2015) focused on five dimensions of online banking services -security, responsiveness, reliability, efficiency, and site aesthetics to identify the impact on customer satisfaction. The result indicated that all dimensions have a positive impact on customer satisfaction.

On the other hand, Amin (2016) argued that certain criteria such as performance and security, as well as personal account data confidentiality of banking transactions, are not yet elaborately emphasized. Furthermore, Marinković *et al.* (2013) also argues that sometimes measuring customer satisfaction is difficult, as it is a latent variable that relies on the individual perception of the customer on the products and service quality. Customer satisfaction cannot be measured unless the dimensions that impact customer satisfaction are determined (Mandal, 2016). Thus, it is extremely important to identify and analyze the adequate determinants, i.e. attributes to be measured to achieve satisfaction (Liébana-Cabanillas *et al.*, 2012). Furthermore, George and Kumar (2014) stated that any individual attribute cannot deliver a



perfect representation of customer satisfaction. Therefore, research on online banking literature enabled to identify the attributes that have strong relation with customer satisfaction. Figure 8 below illustrates the model adopted from literature by Gunawardana *et al.* (2015), that relates to the retail banking technology which impacts customer satisfaction. The five main attributes ease of use, reliability, efficiency, convenience, and security used in the study are further examined in the following section.

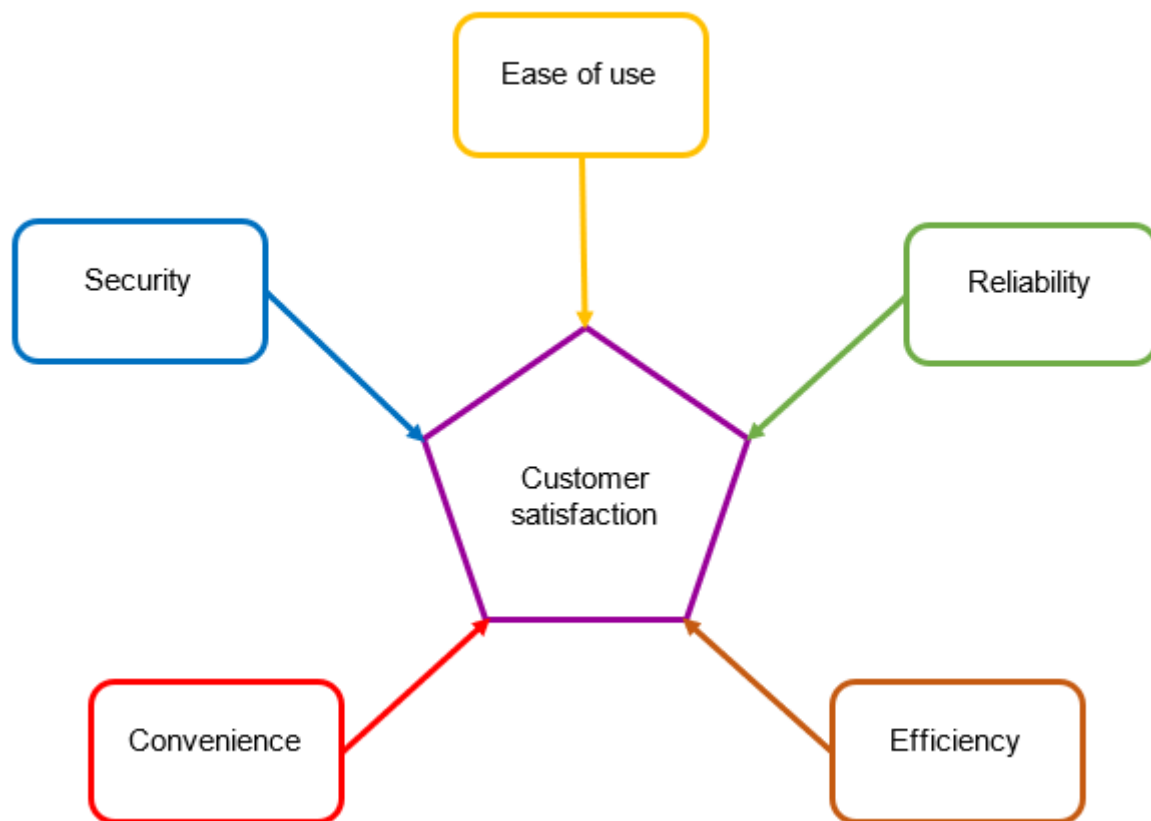


Figure 8: Research model

### 2.7.1 Ease of use

The ease of use attribute refers to the user's perspective and their assessment of effortless use of online banking (Alhassany and Faisal, 2018). Sharma and Halvadia (2015) explain that ease of use enables the users for easy navigation, search out and connectivity to other websites on the online banking portal. Philipos and Singla (2017) explain the ease of use as an important aspect of customer usage of computer technologies like online banking technologies, and it is particularly crucial for new users. It is also a service quality element and decisive factor for customer satisfaction as it increases the efficiency of service usage. Therefore, it is an important construct for measuring the success of information systems and has been extensively used in the literature. It impacts the attitude of the users towards technology and its usage (Marakarkandy and Yajnik, 2013).

Gunawardana *et al.* (2015) argued that customers tend to avoid systems which demand additional physical and mental effort. From the perspective of customers, research has revealed that the customers benefit from online banking in relation to ease of use (Munusamy *et al.*, 2014). Similarly, numerous studies have identified that ease of use positively relates to customer satisfaction (Asad, Mohajerani and Nourseresh, 2016; Chawla and Sehgal, 2012; Ahmad and Al-Zu'bi, 2011). Therefore, it can be stated that the ease of use attribute has a significant relationship and positively impacts customer satisfaction.

### **2.7.2 Reliability**

Reliability is referred to as the capability to perform services precisely and regularly (Raza *et al.*, 2015; Heidari *et al.*, 2014). In general, it means the online banking portal provides the services as committed (Sharma and Halvadia, 2015). Gašević *et al.*, (2016) mentioned that reliability dimension consists of accurate technical functioning of online banking services. However, Sharma and Sharma (2012) highlighted that the e-banking industry faced challenges in delivering reliable services that caused many e-businesses to fail in the earlier dot.com era. In addition, studies have also emphasized the significance of reliable services, particularly in the e-banking domain as system failures result in distrust in the services.

On the contrary, George and Kumar (2014) highlight reliability as a strong predictor of customer satisfaction and it has a substantial impact on customer satisfaction. Likewise, Malik and Oberoi (2017) also mentioned in their literature as several studies have found that the online banking reliability factor as the most dominant factor for customer satisfaction. Munusamy *et al.* (2014) mentioned that customers already using online banking have more confidence in the reliability of services. Furthermore, if expected online banking services are provided to the customer, the reliability factor can be improved (George, 2018). Previous studies have observed that the reliability attribute has a significant relationship and is considered as an important dimension for customer satisfaction. Therefore, it can be postulated that the reliability attribute has a positive impact on customer satisfaction.

### **2.7.3 Efficiency**

Online banking efficiency is measured as the speed of using and accessing the website and facilitates to transaction completion (Paul *et al.*, 2017). Ling *et al.* (2016) suggest efficiency as a vital factor for success of online banking. It enables to minimize the time to complete the banking transactions and benefits the customers by avoiding visit to the bank branches (Redelinghuis and Rensleigh, 2010). As a result, customers emphasize more on the efficiency dimension of online banking in establishing a relationship with their banks (Amin, 2016).

In the information systems area, transaction speed has gained attention due to emphasis on the efficiency of operational resources. Therefore, it is considered as a key feature for user satisfaction in information systems (Yoon, 2010). Ahmad and Al-Zu'bi (2011) also suggest that improving information processing speed are likely to please customers. Furthermore, Asad *et al.* (2016) and Ling *et al.* (2016), in their research, indicated a positive relationship between online banking efficiency and customer satisfaction. Likewise, Ivanovska and Pavlovska (2017) argue that inefficient processes or unwanted product characteristics can cause customer dissatisfaction. In contrast, studies have also observed that efficiency features do not affect customer satisfaction (Gunawardana *et al.*, 2015; George and Kumar, 2014). Therefore, based on previous research findings it can be postulated that the efficiency attribute has a significant impact on the customer satisfaction.

#### **2.7.4 Convenience**

Online banking allows the customer to access the bank portal 24/7 from any location resulting in a high degree of convenience (Ahmad and Al-Zu'bi, 2011). Therefore, online banking is beneficial to customers due to cost savings, space and time it offers, instant response to issues, and improved service delivery, which allows convenient use of services (Munusamy *et al.*, 2014). In the banking sector, customers subscribe to online banking services due to the convenient aspects and play a major role in the evaluation of online customer satisfaction (Brun, Rajaobelina and Ricard, 2016). Convenience is the key priority for most customers; therefore, the customers prefer to select a service provider who can provide the utmost efficient services related to time and effort (Ismail and Alawamleh, 2017).

According to Collier and Kimes (2013), in a self-service environment, consumers hold control of dictating the location and time of service usage, therefore, it resolves the issues of service inconvenience. It is considered as one of the main benefits for online banking users as it eliminates the concerns of visiting the branch (Redelinghuis and Rensleigh, 2010). Gunawardana *et al.* (2015) have highlighted a positive relation between the convenience factor of internet mediated self-service technology service environment and customer satisfaction, and acts as a driver of customer satisfaction. Furthermore, convenience of online banking and customer satisfaction are closely linked, and the customer satisfaction level can be enhanced with an improvement in the degree of convenience to online users. Therefore, based on the literature it can be postulated that convenience has a significant impact on customer satisfaction.

### 2.7.5 Security

Security is referred to as the ability to safeguard information from potential threats. According to Damghanian, Zarei and Siahsarani Kojuri (2016), in the online area, the importance of security issues has been studied widely. Online security is an important dimension of a company's webpage and consist of two vital components which includes personal data protection and privacy of personal data in relation to the collection and use of customer information by the companies (Brun *et al.*, 2016). Ofori *et al.* (2017) indicated security as a major concern for bank customers who use e-banking services. Regardless of the advanced security placed for online banking, people are still able to gain customer information through phishing and cyber-attacks (Bala, 2015). Thus, users are concerned to perform non-financial and financial activities which affect the customer intention of online use (Sharma and Sharma, 2011).

In the financial services sector, online transaction security is one of the dominant aspects of online satisfaction (Brun *et al.*, 2016). Several studies have been carried out to assess the impact of online banking security in relation to customer satisfaction, and a positive relationship has been observed between both the factors. It was observed that online banking provides a high level of security to the customers (Asad *et al.*, 2016; Ahmad and Al-Zu'bi, 2011; Redelinghuis and Rensleigh 2010). Likewise, Chung and Shin (2012) also point a direct link between security and customer satisfaction. Therefore, it can be stated that security has a significant relationship with customer satisfaction.

Based on the literature review it can be observed that online banking possesses several advantages and disadvantages both to the customers and banks. Ivanovska and Pavlovska (2017) suggest online banking provides multiple advantages to the customers as compared to traditional banking. In contrast, Agarwal and Kothari (2018) argue that although online banking services provide flexibility and convenience and ease, still customers are reluctant to use the services due to the associated risk. Table 4 below outlines the advantages and disadvantages.

Advantages		Disadvantages	
For customer	For banks	For customers	For banks
Round the clock access regardless of a place	Expansion of the client bases	Inaccessibility in case technical issues with the system	High-cost development and support software
Ease of use and portability	Increase in volume operating income	Need to receive relevant knowledge	Increases the level of operational risks
Cost of service much lower than that service at the branch office	Tightening competition positions on the market banking services	Inability to access in the absence of the Internet	In case of frequent crashes in the system is growing probability reputational risk
Possibility of realization wide spectrum services	Reduce costs by staff retention and offices	Increased risk of illegal receipt of personal data	Increase probability scams and viruses' attacks
Efficiency conducting transactions	Expanding the spectrum of services	Insufficient protection level from scammers	Dependence on Internet Providers

Table 4: Advantages and Disadvantages of online banking

However, the use of online banking in service innovation to achieve customer need is better understood through its relationship to the service user and how they perceive the service specifically after the financial crisis of 2008 (Mbama and Ezepue, 2018). Thus, it is essential to understand the customer perspective on most relevant online banking attributes and examine its impact on customer satisfaction.

## 2.8 Conclusion

This literature review highlights salient features examined by earlier researchers in the subject of online banking and customer satisfaction. It also provides a view of the most significant attributes uncovered in several studies which examined the impact of online banking on customer satisfaction. This study identifies the changing banking landscape and constant change in utilization of banking services, as the customers are becoming more sophisticated and demanding due to the emergence of internet technology and its impact on online banking service use. Furthermore, focused investigation of online banking service attributes can allow banks to identify customer needs, therefore, enabling banks to provide more improved and tailored service to their customers.

The changing role of retail banks and growing online banking usage in Ireland was also identified in this literature review. Additionally, the majority of the studies focused the research

either quantitatively or qualitatively widely conducted by Mbama and Ezepue, (2018); Malik and Oberoi, (2017); Mandal, (2016); Gunawardana *et al.*, (2015); Shrimali, (2015); George and Kumar, (2014) and Loonam and O'Loughlin, (2008) in different jurisdictions to determine the online banking satisfaction levels. However, none of the previous studies focused to identify the online banking impact on customer satisfaction from the retail banking customer perspective in Ireland, with the blend of a quantitative and qualitative research approach. Thus, this study aims to investigate these areas further with a robust quantitative and qualitative research approach. This denotes a gap in the literature which this study attempts to fill.

The following chapter discusses the research questions and aims and objectives in more detail.

## Chapter 3 – Research Questions

---

### 3.1 Introduction

This research seeks to address a gap in the literature regarding the Irish customer perspective on retail online banking attributes and its impact on customer satisfaction. The majority of the literature review comprised of quantitative studies conducted in different countries and focused on several dimensions addressing online banking factors and customer satisfaction. Thus, based on pre-existing theories in the literature proposed by Gunawardana *et al.* (2015), the most relevant influential dimensions were considered to identify the impact of retail online banking attributes on customer satisfaction in Ireland.

Thus, this study intends to fill the void in the literature, and therefore, this research is quite relevant and timely from the view of both the academic and banking industry.

### 3.2 Research aims and objectives

To achieve the research aims, it is essential to layout the objectives. Saunders, Lewis and Thornhill (2016) explain that the research objective complements a research question and aim. Therefore, the following objectives are outlined through in-depth literature review, analysis of the journals, and articles related to online banking and customer satisfaction to achieve the overall aim of this research.

1. To examine the impact of online banking attributes (ease of use, convenience, efficiency, reliability, and security) on customer satisfaction.
2. To explore and identify which online banking attribute is more influential to attain customer satisfaction.
3. To identify the influence of demographics, particularly gender and age, on online banking use and customer satisfaction.

### 3.3 Research questions

To fulfil the aims and objectives of this research, it is essential to layout the research questions. Through an extensive literature review, the following research questions are addressed in this research.

1. How do the online banking attributes of ease of use, ease of use, convenience, efficiency, reliability, and security impact customer satisfaction?

This question was formulated to understand the significance of online banking attributes to measure the impact on customer satisfaction.

2. Which online banking attribute is more influential to attain customer satisfaction?

This question was formulated to obtain customers opinion about the online banking attributes in order to gain possible insights to further improve the usage and enhance satisfaction levels.

3. How do demographic factors, particularly gender and age, influence online banking use and customer satisfaction?

This question was constructed to understand the influence of gender and age on the online banking use and customer satisfaction.

By addressing the mentioned research questions, this research would contribute to building and expanding the knowledge surrounding online banking and customer satisfaction. The improved knowledge of customer satisfaction with online banking will enable the banks to detect the areas of enhancement in their future online banking offerings.

The following chapter describes the chosen research methodology to achieve the research aims and objectives and how the research questions were answered.



## Chapter 4 – Research Methodology

### 4.1 Introduction

Based on the literature review and research questions, this section describes the methods undertaken to conduct the study and explains the purpose of selected research method approach. The layout of this section is presented as follows: the research framework, philosophy, approach, target population, sample size, data collection methods, data analysis methods, ethical considerations and last section provides the limitations in the study.

### 4.2 Research framework

The research intends to demonstrate a quantitative and qualitative method to identify the online banking impact on customer satisfaction based on customer perspective in Ireland. The methodological framework for the research project consists of every aspect related to how the study was conducted (Quinlan, 2011). Saunders *et al.* (2016) depicts the research methodological framework by providing an analogy of an 'onion' as illustrated in Figure 9 below. The purpose of applying the research onion is to infer a valid, relevant, and effective methodology to attain the research objective in order to provide appropriate answers to

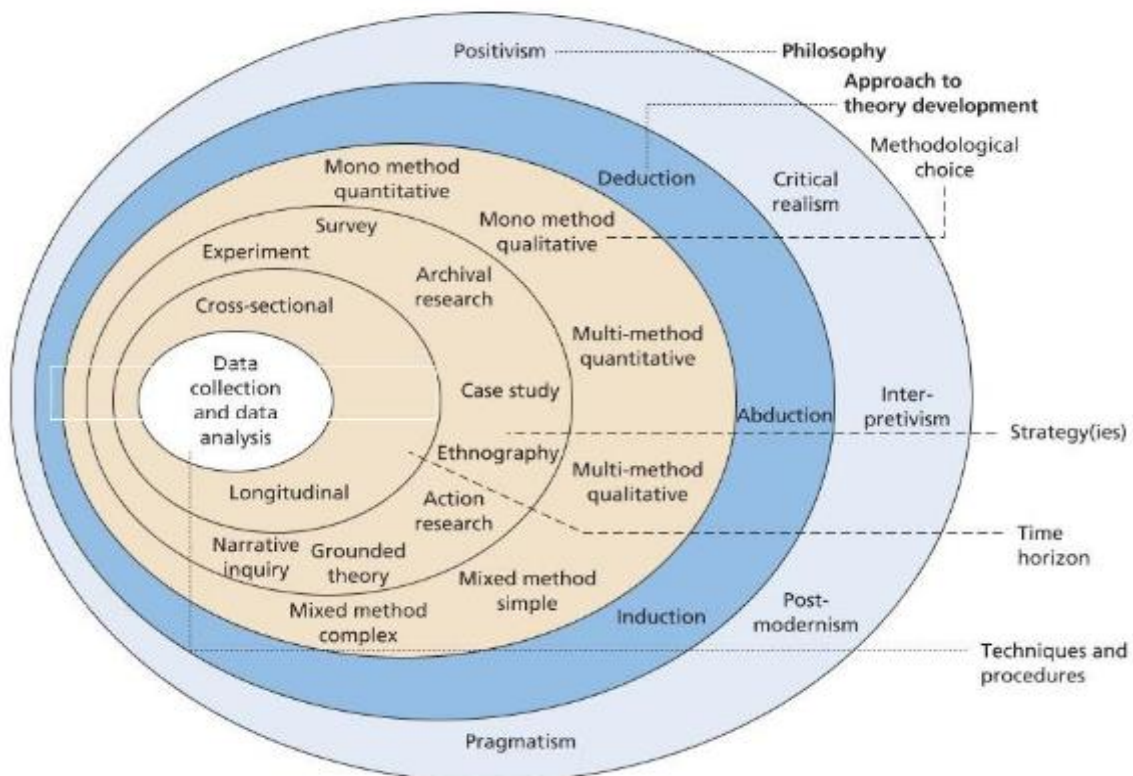


Figure 9: The research 'onion'  
Source: (Saunders, Lewis and Thornhill, 2016, p. 124)

research questions. The primary aspect in determining the research framework has its root in social sciences; encapsulating the concerns relating to the theoretical implication of ontological, epistemology and axiology or further described as the nature of reality, acceptable knowledge and role of values in research (Saunders *et al.*, 2016). It allows the researcher to determine the process to view and interpret the research questions.

### **4.3 Research philosophy**

According to Quinlan (2011), each aspect of the research project should 'fit' within the philosophical framework within which the research project is positioned. The first outer area of the research framework intends to narrow the scope and determine the research philosophy. In relation to the research objectives, the position adopted for this research is epistemological as the researcher is concerned with what formulates acceptable knowledge in the subject of online banking. Furthermore, people's views were regarded as acceptable knowledge and were considered as necessary information for the research. Therefore, several elements of the research 'fit' well together.

The research philosophy adopted for this research is positivism, it is an epistemological approach that supports the implementation of the process of the natural sciences to the study of social reality (Bryman and Bell, 2015). Furthermore, it implies epistemological assumptions in relation to the nature of knowledge and regarding the type of knowledge being established by this research. Therefore, this study will provide knowledge regarding the individuals satisfaction level in relation to retail online banking attributes in Ireland.

### **4.4 Research approach**

At this stage, the contrasting approaches to the research are the selection of a deductive or inductive approach (Saunders *et al.*, 2016). Deductive research is based on an existing knowledge area and the theories related to the specific field. It deduces a hypothesis from theories and collect data to relate the hypothesis to existing literature. Findings are analyzed to observe the outcome, then the hypothesis is validated (Bryman and Bell, 2015). Figure 10 below illustrates the deduction process. In contrast, inductive is an extremely different approach, where the observations are drawn based on one or more specific facts (Cooper and Schindler, 2014).

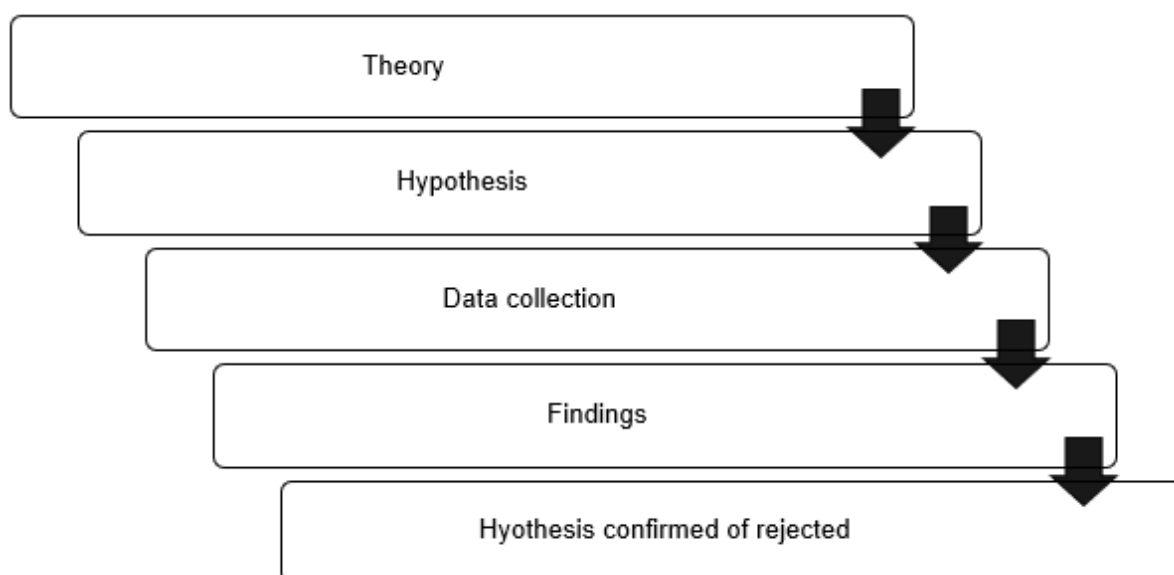


Figure 10: The process of deduction  
Source: (Bryman and Bell, 2015, p. 23)

The deductive theory fits within the epistemological philosophy and supports the objective. Thus, a deductive approach was applied in this research to find the relationship between online banking attributes and customer satisfaction and test theoretical hypothesis developed by other researchers. Compare results with previous studies to determine whether the findings reject or endorse the prior theoretical considerations, thereby narrows the gap in existing theory (Bryman and Bell, 2015). Furthermore, deduction approach in the present research was due to the desired use of quantitative data. This approach also underpins some elements of the inductive approach as it further seeks to obtain qualitative data to seek a general perspective of the individuals on online banking attributes.

Additionally, Saunders *et al.* (2016) highlights different natures of studies as mentioned in Table 5 below.

Types of study	Description
Exploratory	Discovery oriented aims at searching new insights, asking questions to develop a complete understanding of a situation or issue.
Descriptive	Designed to produce an accurate representation of persons, events or situations.
Explanatory	Cause oriented aims on studying a situation or an issue in order to explain the relationship between variables.

Table 5: Types of study

Both a descriptive and exploratory research approach was used for this research to discover new ideas and insights. Descriptive research is used to measure and quantify the relationship between online banking attributes and customer satisfaction and the customer's approach towards online banking. The exploratory research was utilized in the extension of descriptive research using open-ended questions in order to obtain further insights on online banking attributes that can improve usage and enhance customer satisfaction.

#### **4.5 Research strategy**

Research strategy allows the researcher to answer the research questions by gathering and interpreting data with a clear research objective. Rahi (2017) highlighted five important research strategies which are surveys, experiments, archival analysis, case studies and histories. According to Quinlan *et al.* (2019), survey methods are largely quantitative research with some qualitative elements and data can be gathered by questionnaire. Thus, survey strategy is adopted to collect quantitative information for the descriptive research purpose. The survey also consisted of open-ended questions to gain qualitative information from participants as another form of technique to collect the data. Furthermore, the data collected by the survey can be utilized to propose reasons for possible relationships among the variables and provide conclusions. Additionally, it also relates to a deductive and inductive approach which allows the researcher to gather and analyze quantitative and qualitative data using descriptive and inferential information from the sizeable population in an economical cost (Saunders *et al.*, 2016).

The selection of survey strategies was directed by the literature, where similar research strategy on online banking and customer satisfaction were widely conducted by Malik and Oberoi (2017) and Gunawardana *et al.* (2016). A study conducted on Irish customers by Loonam and O'Loughlin (2008) in relation to online banking use, with a focus on a qualitative approach, also inclined this study to use open-ended questions with the objective that the generated piece of information would complement the quantitative data.

#### **4.6 Research choice**

Saunders *et al.* (2016) distinguish the methodological choices that research needs to follow between the mono method and multiple methods, Figure 11 below provides a category of methodological choices.

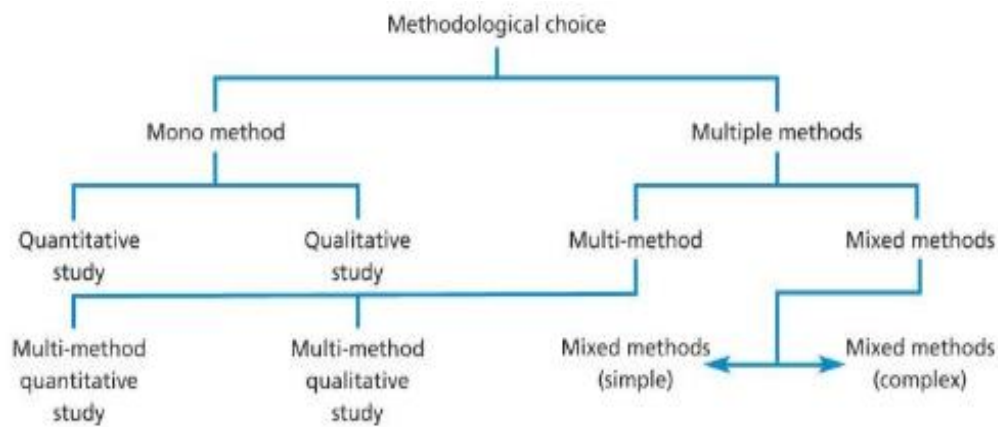


Figure 11: Methodological choices  
Source: (Saunders, Lewis and Thornhill, 2015, p. 167)

This research aimed to use a dual approach, thus, a mixed method research design is used specifically the convergent parallel mixed method, to answer the research question. Creswell (2014) explains that mixed-method research design involves a combination of the qualitative and quantitative data collection approach, and it provides a comprehensive knowledge of the research problem, Figure 12 below provides a graphical representation.

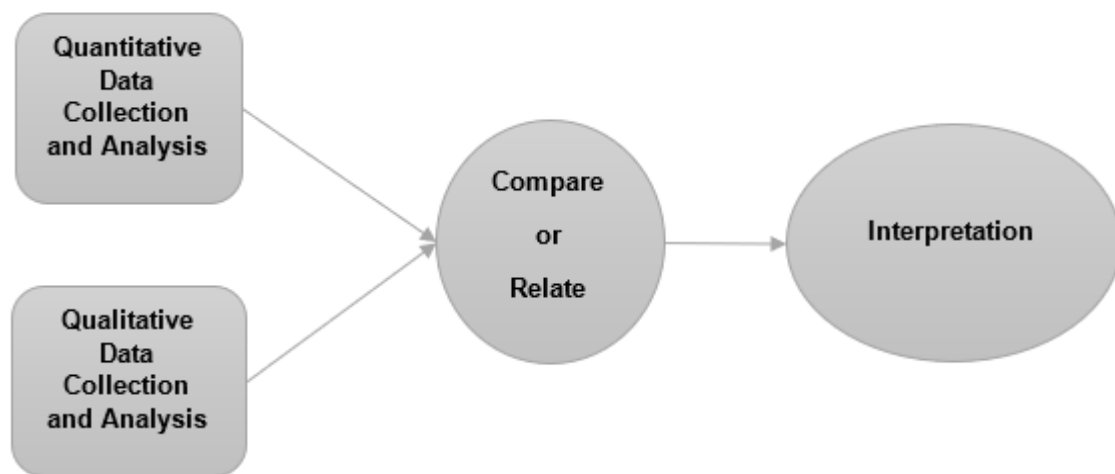


Figure 12: Convergent Parallel Mixed Methods  
Source: (Creswell, 2014, p. 220)

This research used the quantitative method by conducting a survey to answer the research questions one and three, which involved gaining information to measure the impact of online banking attributes on customer satisfaction and also aimed to gather demographic information, particularly gender and age, to identify the online banking usage and customer satisfaction in Ireland. Qualitative methods were used in the form of open-ended questions in the survey followed by quantitative research. Thus, the research question two aimed to identify the customer's perspective of the most influential online banking attribute to improve customer

satisfaction. The adopted research methodological choices will provide a substantial evidence for this research in order to compare findings with the literature to determine concurrence or divergence.

#### 4.6.1 Time horizons

Methodological choices and related strategies will also influence the selection of appropriate time horizons (Saunders *et al.*, 2016). Cross-sectional research is conducted to investigate variables in various context over the same time period whereas longitudinal research is conducted to investigate variables over a longer time period (Collis and Hussey, 2014).

The Cross-sectional study was employed due to time-constrained for quantitative and qualitative data collection. The data collection was done within four weeks of time which restricted to track changes over a longer period. Furthermore, the dissertation needs to be completed within in specific timeline which also represents a time limit.

#### 4.7 Secondary data collection

The secondary research was done through literature review and is usually done before the primary research to understand the thesis scope. Some of the related subtopics for this research that were investigated included retail banking industry, online banking attributes, and customer satisfaction. Saunders *et al.* (2016) have categorized secondary data into three categories and further divided into subgroups, illustrated in Figure 13 below.

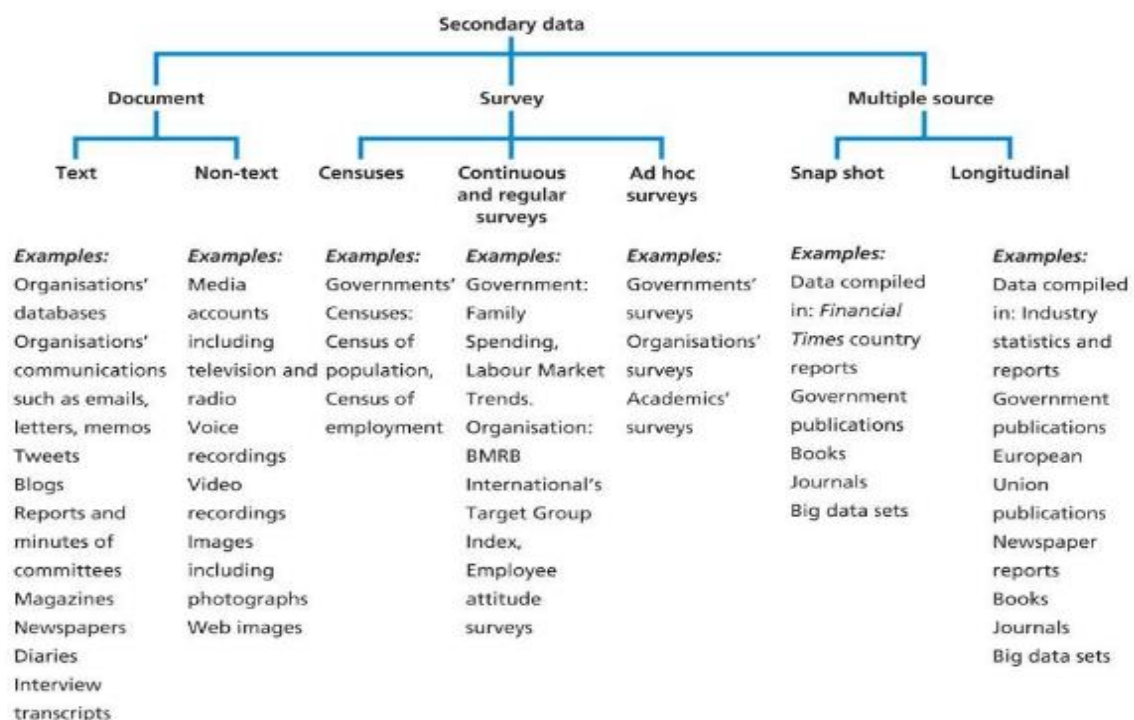


Figure 13: Types of secondary data  
Source: (Saunders, Lewis and Thornhill, 2016, p. 319)

This study primarily obtained data based on multiple sources consisting Snap shot and longitudinal sources. The online academic database of National College of Ireland also aided as the main source for secondary data.

#### **4.8 Primary qualitative data collection**

According to Collis and Hussey (2014), qualitative data are usually transient, interpreted within the context and normally results in findings reflecting a high level of validity. This study has adopted survey-based research, thus, the main means of obtaining qualitative data was done through open-ended questions. The questionnaire survey developed consisted a suggestion section (Appendix Questionnaire Section C) where the respondents were sought to provide their opinion about the online banking attributes to gain customer insights. The open-ended survey questions are economical and simple methods to explore diverse and varied phenomena in a certain population (Tran *et al.*, 2016). Furthermore, with open-ended questions, it is crucial to determine the length of space as too much space can be off-putting to the respondents (Saunders *et al.*, 2016). Therefore, the open-ended question provided adequate space to gain possible answers from the respondents to acquire relevant information for the research objective.

#### **4.9 Population**

The researcher provided the survey questionnaire to the respondents and sought suggestions to obtain their perspective in order to identify which online banking attribute is more influential to improve customer satisfaction. Out of 52 respondents, only 20 respondents provided their opinions out of which 16 respondents suggestions were used for analysis and discussed the idea by refining and elevating the data.

#### **4.10 Qualitative data analysis**

In order to develop the qualitative data analysis, open-ended suggestions provided by the respondents in the questionnaire in the written form, were categorized in groups to identify the areas that respondents showed interest in further improvements of the online banking attributes to enhance customer satisfaction and increase its usage. This research used template analysis for analyzing the qualitative questionnaire responses. It allowed to structure the data into several themes, identify relationships among these themes, and compare and relate the diverse perspective of interviewees.

#### **4.11 Primary quantitative data collection**

According to Quinlan *et al.* (2019), the major source of quantitative data collection techniques are surveys, which was employed in this research, and the questionnaire instrument was used to collect the quantitative data. The main reason for this is primarily because each respondent

is needed to answer the same set of questions to gain information from a large sample population.

Based on the literature review, three probable areas of interest arose for this research, and to gain essential information. The main aim of the questionnaire is to predominantly determine quantitative data, identifying and exploring the Irish customer perspective of the retail online banking attribute on customer satisfaction and to identify the demographic influence on online banking usage and the satisfaction level. This aim was compatible with qualitative data, identifying and exploring the customer perspective to determine the most influential online banking attributes to attain customer satisfaction.

According to Saunders *et al.* (2016) quantitative survey data collection methods are classified into two categories and are further subdivided as illustrated below in Figure 14. The interviewer-completed face-to-face questionnaire was adopted for this research. This approach allows the researcher to obtain answers for all the questions as the respondents

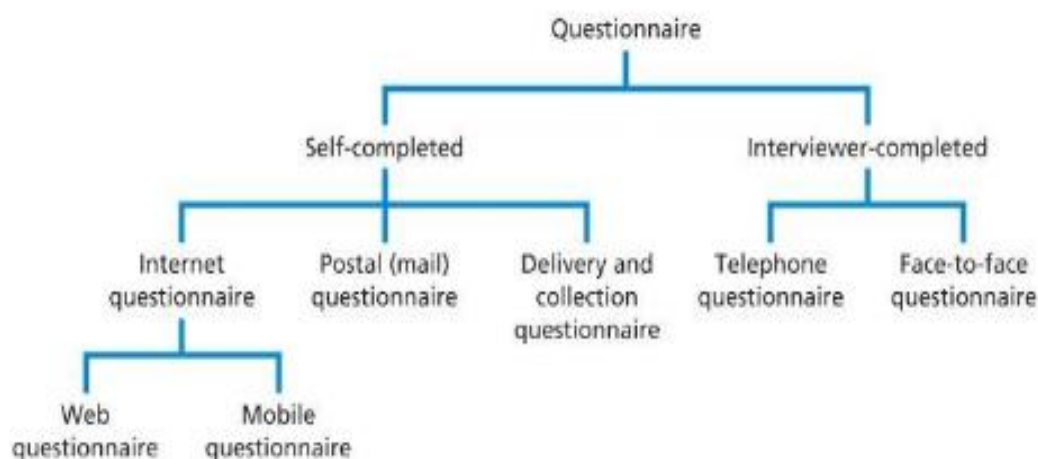


Figure 14: Types of questionnaire  
Source: (Saunders, Lewis and Thornhill, 2016, p. 440)

could not deviate from the questions. Closed-ended questions were used for this research as it is easier and quicker to respond and needs minimal writing as a limited choice of possible answers are provided. The formulated questionnaires ensured to eliminate pitfalls defined by Bryman and Bell (2015) such as ambiguous questions, long questions, double-barreled questions, leading questions. The questionnaire was divided into three parts (Appendix Questionnaire):

- Section A - Demographic factors particularly gender and age, use of online banking and bank name.



- Section B – Conceptual framework constructs consisting of ease of use, reliability, efficiency, convenience, and security.
- Section C – Respondents' suggestions on the improvement of online banking attributes.

The questionnaire used for this investigation consisted of seven questions. It consisted one section with five questions that rate the attributes, other sections consisted four list questions, and two open-ended questions. Rating questions contained six-point Likert scale to avoid neutral answers from the respondents, with an option, illustrated in Table 6 below.

Scale	Options	Classification of responses
1	Strongly disagree	Negative
2	Disagree	Negative
3	Slightly disagree	Negative
4	Slightly agree	Positive
5	Agree	Positive
6	Strongly agree	Positive

Table 6: Likert scale

The questionnaire framework was adapted from Sharma and Sharma (2011) and Gunawardana *et al.* (2015). The questionnaire was then followed by two stages of data gathering and refinement, a pilot survey and a final questionnaire survey. The pilot research assists to improve the research reliability and validity and allows to test the survey instrument designed for the research (Quinlan *et al.*, 2019). The researcher tested the survey questions among five respondents to ensure the questions are clear and are appropriate and it meets the survey's aims and objectives. The pilot survey responses were found satisfactory, and few adjustments were made to the final questionnaire survey.

#### 4.12 Sample size

It is difficult to measure or identify the size of the total target population, therefore this study used a sampling method for data collection. According to Ghauri and Grønhaug (2005), sampling is extremely important for quantitative studies. Figure 15 below illustrates the process. The selection of an appropriate sample size is crucial to determine the validity and accuracy of the research (Nayak, 2010).

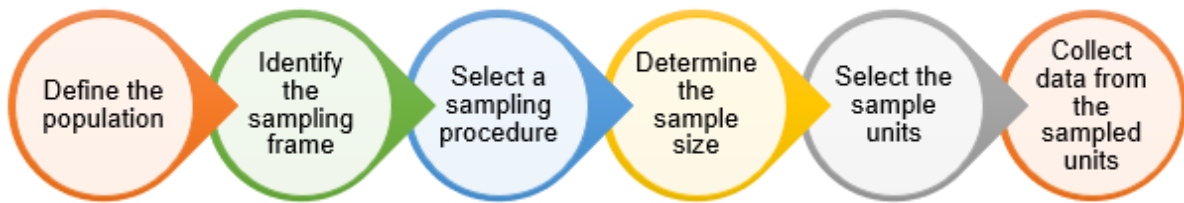


Figure 15: Sampling process

Source: (Ghauri and Grønhaug, 2005, p.146)

A combination of probability and non-probability sampling design was selected since the respondents were contacted face to face and had an equal probable chance of being selected, and the probability of each unit of the sample population being selected as a component was unknown. Gunawardana *et al.* (2015) in his research addressed that a sample population more than 30 and below 500 is sufficient for most quantitative research. Furthermore, the sample group could not be reached in the banks due to the privacy and sensitivity of the customer. Therefore, this study used simple random and convenience sampling to obtain information from selected fifty-two participants who used retail online banking in Ireland, which enabled this research to deduce information about a population based on findings from a sample population. This selection approach of subjects was used due to their accessibility and proximity provided and the advantage to the research due to easy availability and quickness of data collection. The sample population exhibited a broad age group ranging from 18 to above 50 years old, segmented into four categories, representing three categories by males, females, and others. Demographic details particularly gender and age were considered, additional details such as education and income level were not deemed to be applicable for the present research.

#### 4.13 Quantitative data analysis

The analysis of data is constructed based on the responses received from the sample population whether in the form of words or numbers. According to Saunders *et al.* (2016), categorical data is categorized as descriptive or nominal data which cannot be defined numerically, and ranked or ordinal data allows to position the data more precisely (Saunders *et al.*, 2016). The generated data mainly consisted of ranked data as the questionnaire majorly consisted of rating questions that sought to pick alternatives between agreement and disagreement with a statement based on a six-point Likert scale ranking. Descriptive scales were used to tag variables such as gender, age and were acquired through list questions in the questionnaire.

Quantitative data addressed the research objective one and three and the qualitative data addressed the second objective of the research. The data was collected between May and June 2019. According to Horn (2009), Microsoft Excel is a well-know and versatile tool to maintain and analyze the data. Therefore, the quantitative and qualitative data analysis was done by using a Microsoft Excel spreadsheet and presented in the form of graphs and tables.

#### 4.14 Ethical considerations

Ethics is the main concern for all the research to maintain the standards of the conducted study. According to Menih (2013), key ethical concerns for research include exclusion conditions, recruitment method, informed consent, the participant and researcher relationship, and the researcher's safety. In relation to the mentioned ethical concerns, following steps were ensured as outline in Table 7 below. Horn (2009) suggests that while using a questionnaire

<b>Ethical concerns</b>	<b>Measures taken</b>
Exclusion conditions	Removed participants who denied completing the survey.
Recruitment method	Selected participants aged 18 years and above.
Informed consent	Participants were informed about the nature and aim of the research and were asked to sign the survey form in completion (Appendix section C).
Participants and researcher relationship	The relationship was maintained, as participants responded to the survey, and the researcher noted the response.
Researcher's safety	Safety was ensured by displaying identify proof of the researcher, which helped in gaining the trust of the respondent.

Table 7: Ethical steps taken

instrument a signature of the respondent is sufficient for obtaining the consent, which was followed by the researcher.

The researcher ensured to maintain ethical guidelines and with the pilot survey, it was observed there was no emotional and physical harm to the respondents while responding to the survey questionnaires. This study also adheres to two vital principles of anonymity of participants and the confidentiality of data. Implementation of new General Data Protection Regulation (GDPR) in May 2018 place emphasis for essential privacy steps on how the data will be handled and stored once collected (Sela, 2018). Therefore, the confidentiality of the

collected data is maintained in a password encrypted file, their anonymity is preserved by coding numbers to the participant, and the information is utilized only for this research.

#### **4.15 Research limitations**

One crucial element during the research encountered is that the data accumulation for the questionnaire and survey can be delayed due to the dependency on respondents for required information and thus analyzing the results may be time-consuming. The first limitation observed in this study was the final survey only had five online banking attributes, each of them consisting two variables. Additional attributes were developed, however, to maintain respondent's attention and to provide a concise survey, the questionnaire was distilled down to develop its present form. Additionally, this research only primarily focused on retail banking customers to identify the impact on online banking attributes on customer satisfaction, other types of banks such as corporate and wholesale banking were not considered. The research was conducted specifically in the IFSC location, Dublin, Ireland to obtain information from the sample population. Therefore, the results of the research may not be a representation of the overall population. Furthermore, due to time constraints, this study largely focuses on quantitative research and qualitative data was gathered only through the suggestion provided by the participants. This study would have preferred to perform qualitative interviews post completion of the survey to gain an in-depth understanding of the impact of online banking attributes for customer satisfaction in Ireland.

#### **4.16 Conclusion**

The "Research Onion" suggested by Saunders *et al.* (2016) was applied to outline the framework for this research at the beginning of the chapter. This aided direction of the study to discuss the appropriate research philosophy and approach adopted for the research. A primarily quantitative approach designed survey questionnaire and qualitative open-ended questions were selected to ascertain the required information and suited to meet the specified research objectives. The sample selected in the research, as well as data analysis, ethical considerations, and limitation of the research, were also explored.

The following chapter intends to derive the results of the collected data and analyze the findings from the raw data gathered from the survey.

## Chapter 5 – Analysis and Findings

---

### 5.1 Introduction

This section represents the analysis and findings of the research, based on the retail banking customers perspective on the impact of online banking attributes on customer satisfaction in Ireland. The sole purpose of this chapter is to answer the research objectives and to address the implications of the research. This section discusses the following:

### 5.2 Data analysis

In conjunction with the quantitative data obtained from the survey, the supplementary qualitative observations were also organized into a group of information to demonstrate the questionnaire findings in a succinct and comprehensive format.

#### 5.2.1 Questionnaire response rate

The study targeted 56 respondents for the survey as a sample size. As indicated in Table 8 mentioned below, 7% of the sample population consisting of 4 individuals refused to share their bank name or participate for the survey. However, 52 respondents provided their response allowing a response rate of 93%. In a survey, the response rate is used as a general indicator of the representativeness of data gathered in a study. With higher response rates, the probable difference between respondents and non-respondents are less, thus increasing the possibility to generalize the survey results to the sample population (Brtnikova *et al.*, 2018). Likewise, Baruch and Holtom (2008) also suggest that higher response rates tend to provide a result that possesses larger credibility among vital stakeholders, indicating the potential contribution of research.

Response rate	Numbers	Percentage
Response	52	93
Non-responses	4	7
Grand Total	56	100

Table 8: Questionnaire response rate

According to Fryrear (2015) and Lindemann (2018), a higher response rate of 80% or higher from a small number of respondents is preferable as compared to the low response from sample large potential respondents. Therefore, it can be stated that the response rate obtained through this survey delivers its validity and reliability, which conforms to the stipulated rate of response required for the survey.

## 5.2.2 Background Information

The background data is a vital element to research when analyzing the demographics of the sample population. The background information is essential to obtain first, as it allows convenience to rationalize and validate other data. The questionnaire survey sought to acquire the gender and age criteria from the participated respondents.

### 5.2.2.1 Gender

Figure 16 below indicates that 28 male respondents, consisting of 54%, and 24 female respondents, consisting of 46%, contributed to the survey. In the CSO's (2018) census statistical report of Ireland, they estimate sex proportion of 97.8 males for every 100 females. This indicates that the female population in Ireland is slightly more than males. In contrast, the findings of the survey for this research have reported an inverse sex ratio for online banking usage as there were comparatively slightly more male respondents than female respondents.

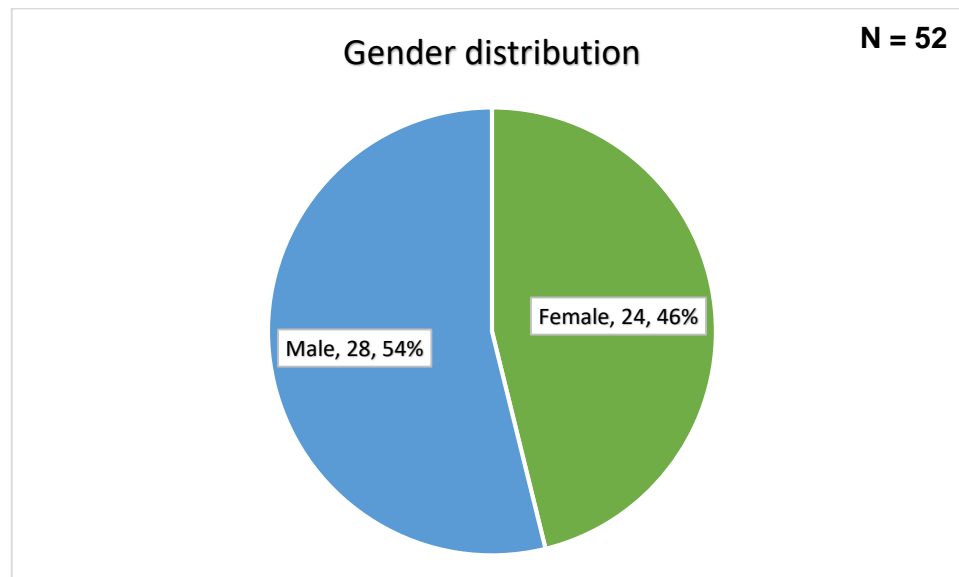


Figure 16: Gender of respondents

However, it can be observed that there is a minimal difference between genders regarding the preference of using online services provided by the retail banks in Ireland.

### 5.2.2.2 Age

Figure 17 displays a summary of the age group of the respondents who participated in the survey. Of the respondents, 50% are between the ages of 18-30 years, followed by 23% of the respondents aged between 30-40 years. On the other hand, it can be observed that the respondents of age 40 and above contribute only to an overall 27% in utilizing the online banking services. This finding coincides with the analysis of George and Kumar (2014) and Eze *et al.* (2011), stating younger generations are mostly attracted towards online banking

use. Likewise, Ivanovska and Pavlovska (2017) also highlighted similar findings, wherein more than 71% of the sample population represented between the 18-45 age group. Furthermore, the author also indicated that, people in the age group of 18-25 tend to use online banking the most, which coincides with the results of this research.

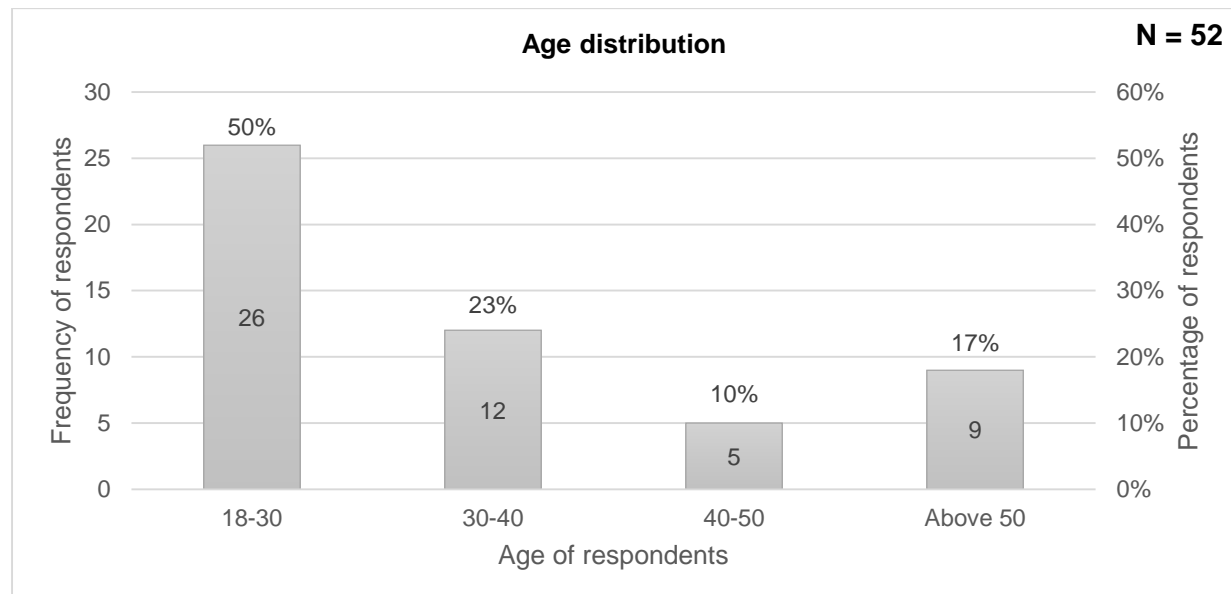


Figure 17: Age distribution

The survey results indicate that the younger population are more inclined towards online banking services as compared to the elderly population and can be a valuable target segment for banks.

### 5.2.2.3 Use of online banking services

The respondents were requested to specify whether they utilize online banking services, Table 9 below displays the results.

Online banking usage	Number	Percentage
Yes	50	96
No	2	4
<b>Grand Total</b>	<b>52</b>	<b>100</b>

Table 9: Use of online banking services

This result infers that the majority of the respondents (96% of the sample population) use online banking services in Ireland. The result corresponds with Taylor (2018) and BPF1 (2015) statistics in the Irish context, indicating that the population in Ireland have embraced the concept of online banking. In contrast, two respondents who participated in the survey did not use online banking and preferred branch banking as they considered it to be more secure and convenient. Furthermore, it was also observed that both respondents were in the above 50

age group and consisted of both a male and a female. The analysis of non-adoption of online banking concurs with findings of Jayachandran (2019), which highlighted the resistance of the older citizens with online banking use, especially due to security issues.

#### 5.2.2.4 Respondents bank details

Table 10 displays which bank the respondents use retail online banking services with. Out of 52 successfully surveyed respondents, a single female participant in the above 50 age category did not share their bank details for the survey due to confidentiality and security concerns.

Bank name	Number	Percentage
AIB	30	57
BOI	14	27
Ulster bank	6	6
PTSB	4	8
Bank details not shared	1	2
<b>Grand Total</b>	<b>52</b>	<b>100</b>

Table 10: Respondents bank details

It can be inferred that most of the individuals in Ireland utilize AIB or BOI online banking services as compared to other banks. It can be further implied that AIB and BOI has a large number of online retail banking customers. It was also identified previously in the literature review that AIB and BOI dominate the Irish retail banking sector and holds a huge customer base.

#### 5.2.3 Online banking customer satisfaction

The questionnaire sought to ask customers whether they were satisfied with online banking services provided by their respective banks. It was extremely essential to understand the customer view as it is a crucial element prevalent in past research as discussed in the literature review. All the respondents surveyed, largely signified that they were satisfied with their online banking service.

Online banking customer satisfaction	Numbers	Percentage
Yes	46	92
No	4	8
<b>Grand Total</b>	<b>50</b>	<b>100</b>

Table 11: Overall customer satisfaction

Table 11 above displays that out of the overall 50 successfully surveyed customers, 46 customers were satisfied with online banking facilities, which consist of 92% of the



respondents. On the other hand, a smaller proportion of 8% (4 customers) showed dissatisfaction with their online banking services. Two dissatisfied respondents were in the above 50 age group and were primarily concerned about the security of data and the other two dissatisfied respondents who were in the below 40-year-old category and indicated issues about ease of use and inconvenient accessibility to online banking.

## **5.3 Findings**

The five-independent variable of online banking attributes consist of ease of use, reliability, efficiency, convenience, and security were assessed with dependent variables of customer satisfaction. Based on the data analysis below, mentioned key findings of quantitative and qualitative research were drawn for determining the impact of online banking attributes on customer satisfaction.

### **5.3.1 Findings of the quantitative research**

The quantitative research findings demonstrate the survey responses gained by the participants. The participants scaled five main attributes consisting of two variables for each attribute to determine the impact on customer satisfaction. The six-point scale responses were converted into scores 1 (“strongly disagree”), 2 (disagree), 3 (slightly disagree), 4 (slightly agree), 5 (agree), 6 (strongly agree). Based on the perspective of the respondents following the research, the findings can be analyzed.

#### **5.3.1.1 Objective 1 findings**

**“To examine the impact of online banking attributes (ease of use, convenience, efficiency, reliability, and security) on customer satisfaction”.**

##### **5.3.1.1.1 Ease of Use (EOU)**

EOU consisted of two separate variables. The questions aimed to identify whether website content enabled the customer to perform online banking smoothly and do customers find online banking interfaces user-friendly and could they navigate the bank website without any complexities.

##### **a. Information content and texts are easy to understand - EOU1**

Figure 18 exhibits customer perspective regarding variable EOU1 and was analyzed as a positive aspect for customer satisfaction. The variable scored 86% of positive satisfactory response (i.e. slightly agree, agree, and highly agree) and 14% of a negative response (i.e. strongly disagree, disagree, and slightly disagree).

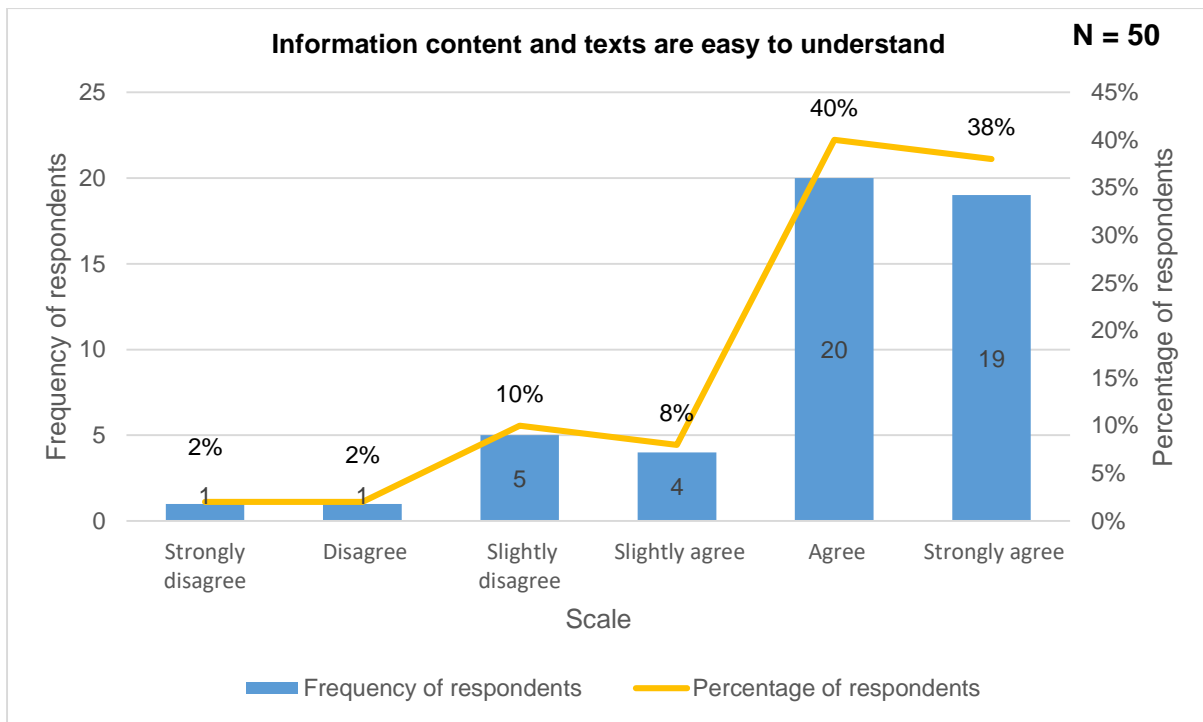


Figure 18: EOU1 findings

#### b. The bank's site is easy to navigate and simple to use – EOU2

Figure 19 displays the customer perspective regarding the variable EOU2 and after analysis, it shows that it positively impacts customer satisfaction. A large number of respondents (actual number of 46 and 92%) felt that proper instructions on a bank's website simplifies the navigation process. In contrast, only 4 respondents, consisting of 8%, provided negative responses and indicated dissatisfaction.

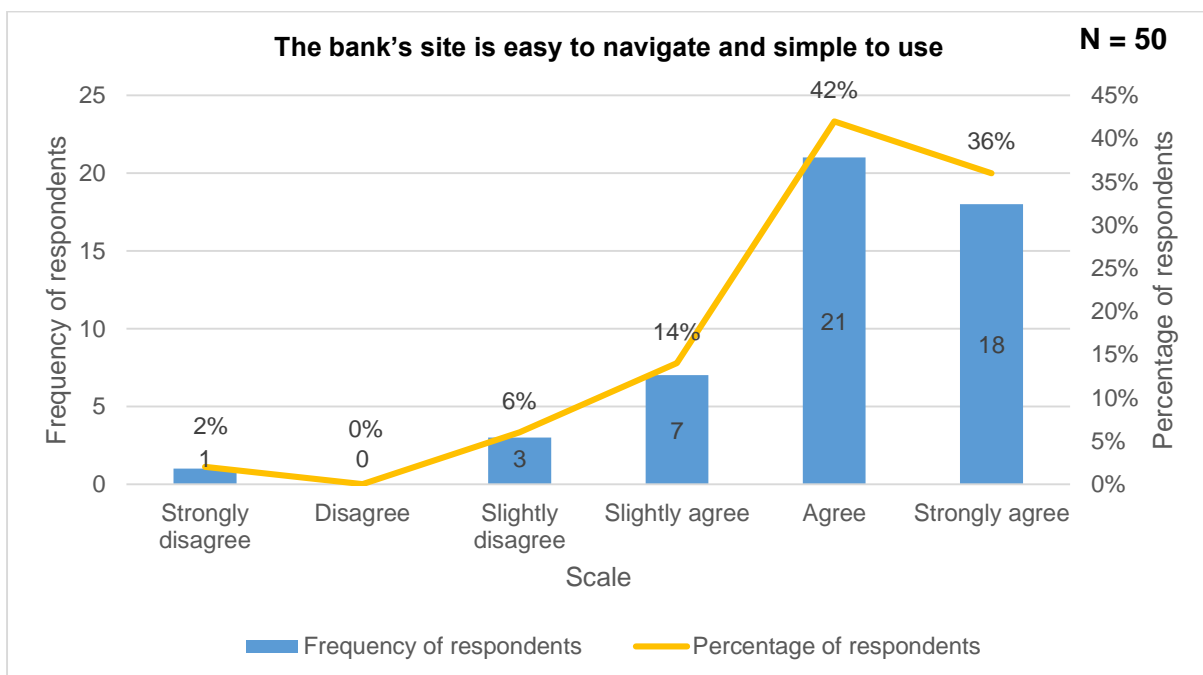


Figure 19: EOU2 findings

Based on the overall responses from both the variables it can be deduced that approximately an average (circa 89%) of the respondents with a positive scale found online banking extremely effortless to understand information and easy navigation, which simplifies the banking process for customers resulting in higher customer satisfaction. The findings of the survey match with past research as they found ease of use has a positive impact on customer satisfaction (Asad *et al.*, 2016 and Ahmad and Al-Zu'bi, 2011). Thus, it can be stated that the majority of customers are satisfied with the EOU attribute.

### 5.3.1.1.2 Reliability (RE)

RE contained two variables to assess the customer satisfaction level. The questions attempted to identify whether the actual content provided by online banking is trustworthy and provides error-free services as assured.

#### a. Information provided is accurate - RE1

Figure 20 below indicates that 49 participants, 98% of the overall sample population, provided positive response and a single individual, representing 2% of sample population, slightly disagreed. The negative amount of responses received are insignificant as compared to the huge amount of positive satisfactory responses. Therefore, it can be stated that RE1 positively impacts customer satisfaction.

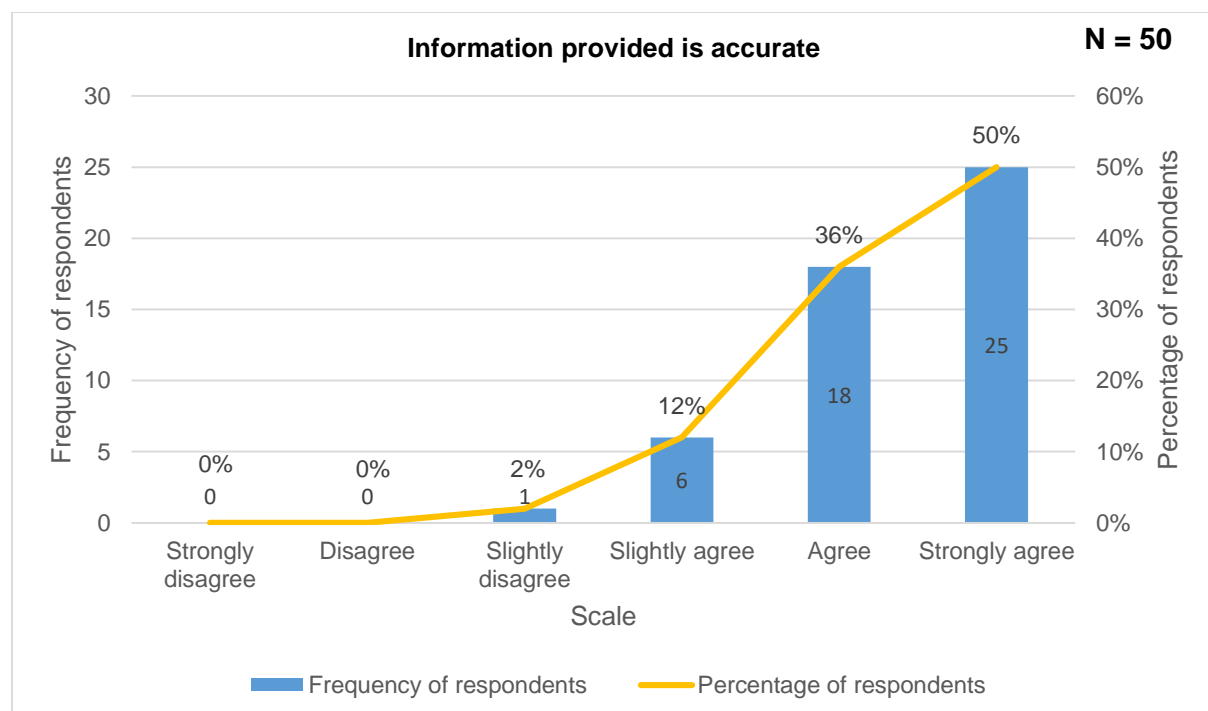


Figure 20: RE1 findings

### b. The webpages function properly – RE2

Figure 21 below displays that a total of 47 respondents (94%) agreed that RE2 positively impact customer satisfaction. Similar to RE1 findings, only a small group of individuals (actual number of 3, 6%) displayed disagreement on the satisfaction level. Therefore, it can be stated that the RE2 positively impacts customer satisfaction.

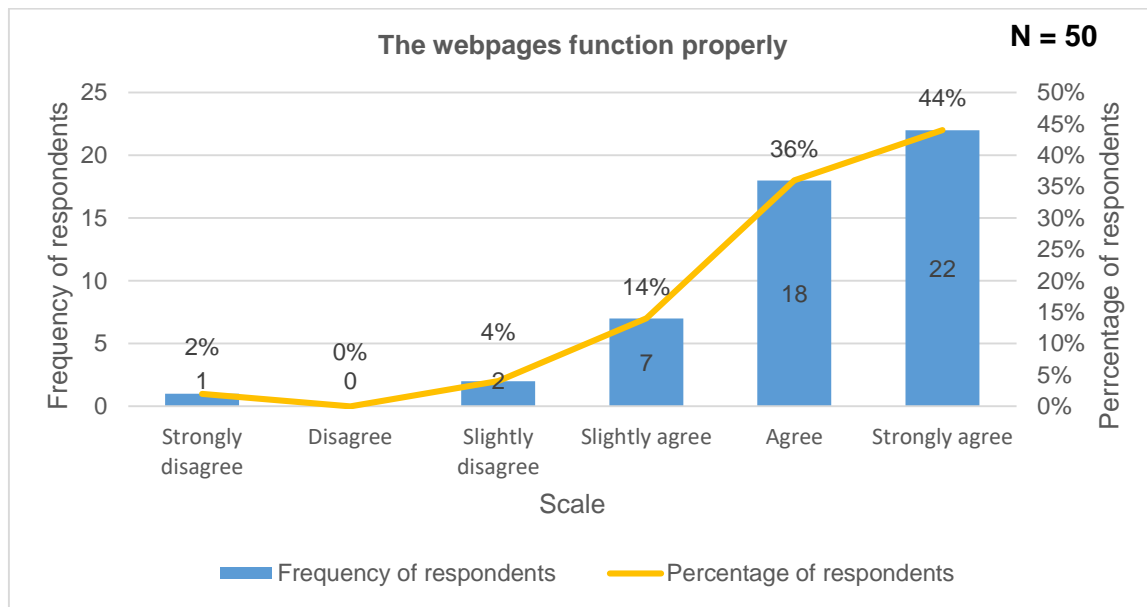


Figure 21: RE2 findings

Based on the analysis it can be depicted that approximately 96% of the average sample population believe that online banking services are highly reliable. Therefore, it can be concluded that RE is the most important attribute and customers are satisfied with the online banking reliability attribute. The findings also support findings of previous literature, which substantially advocated reliability as a major contributing variable for customer satisfaction (Malik and Oberoi, 2017 and George and Kumar, 2014).

#### 5.3.1.1.3 Efficiency (EF)

The EF attribute consisted of two variables. The questions intended to assess the perspective of the respondents on how crucial it is for online banking services to be efficient for customer satisfaction.

##### a. Your account login and logout are fast – EF1

Figure 22 below depicts that 84% of respondents (actual number 42) provided positive responses. However, 8 respondents representing 16% of the sample population, felt dissatisfied with the said variable.

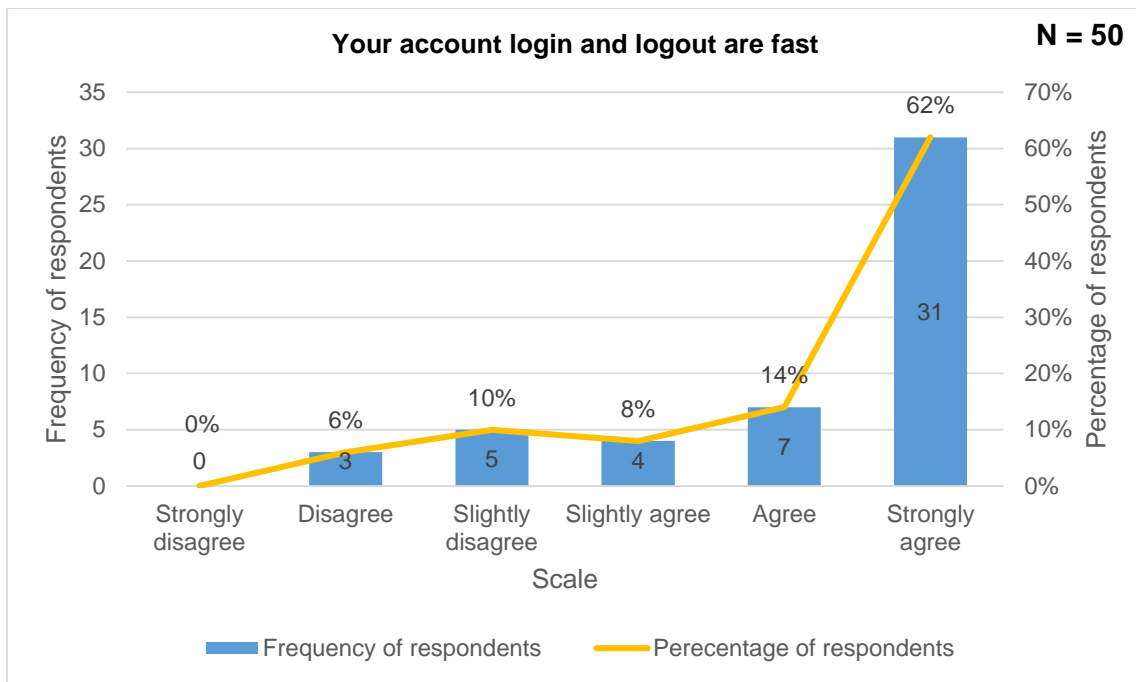


Figure 22: EF1 findings

**b. The bank's site performs the service right at the first time – EF2**

Through observation, Figure 23 findings show that 92% of the respondents (46 individuals) viewed EF2 as a positive variable and were, for the most parts, satisfied. On the other hand, 8% of the sample population indicated slight dissatisfaction with the said variable.

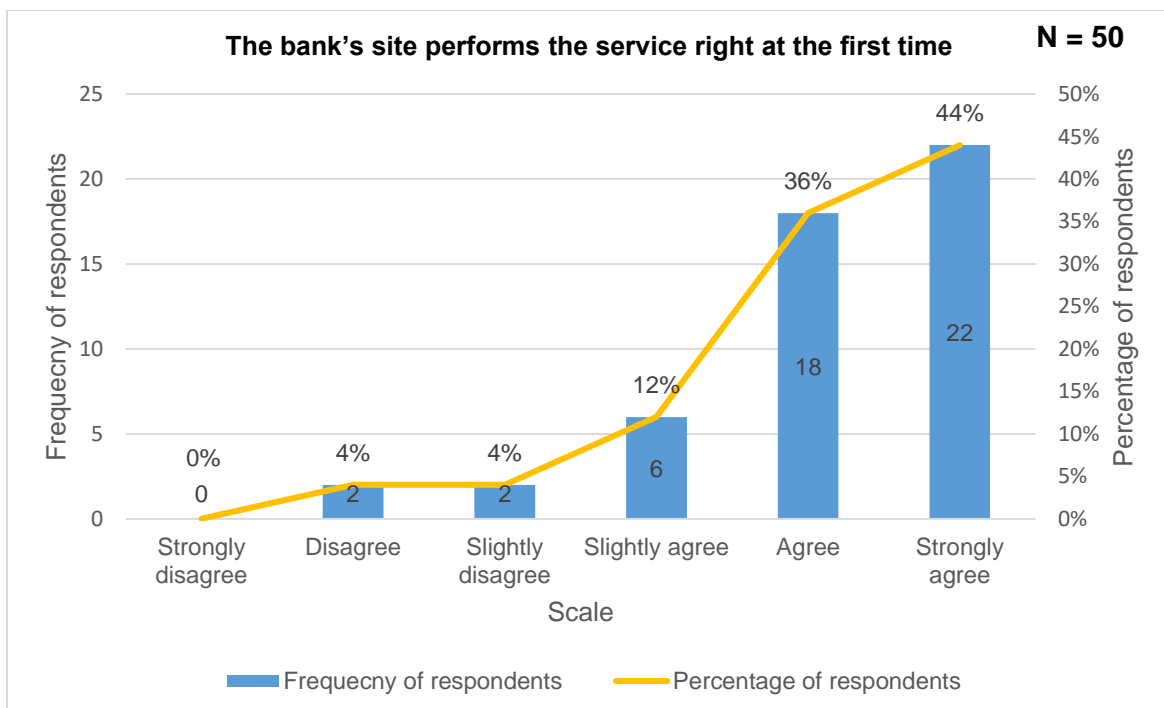


Figure 23: EF2 findings

Both the variables gained an average of circa 88% of positive responses on the scale. There is an approximate average of 12% on the negative response which does not suppress the

importance of high level of satisfaction response for the efficiency attribute. Therefore, it can be accepted that customers are satisfied with the efficiency attribute of online banking. The observed results contradict the findings of Gunawardana *et al.* (2015) and George and Kumar (2014) stating that the efficiency attribute has a negative effect or does not impact customer satisfaction.

#### 5.3.1.1.4 Convenience (CE)

The CE attribute also consists of two variables. The CE attribute questions intended to identify whether online banking services are available for customers 24/7 from any location and does it impact satisfaction level.

##### a. The bank's site is accessible beyond regular business hours – CE1

Figure 24 below show that 92% of respondents (46 individuals) highlighted that the CE1 positively impacts customer satisfaction. Interestingly, a large number of respondents (68%) strongly agreed that the said variable impacts customer satisfaction and displayed as highly satisfied. The other 8% of the sample population, total of 4 respondents, showed dissatisfaction and provided negative responses.

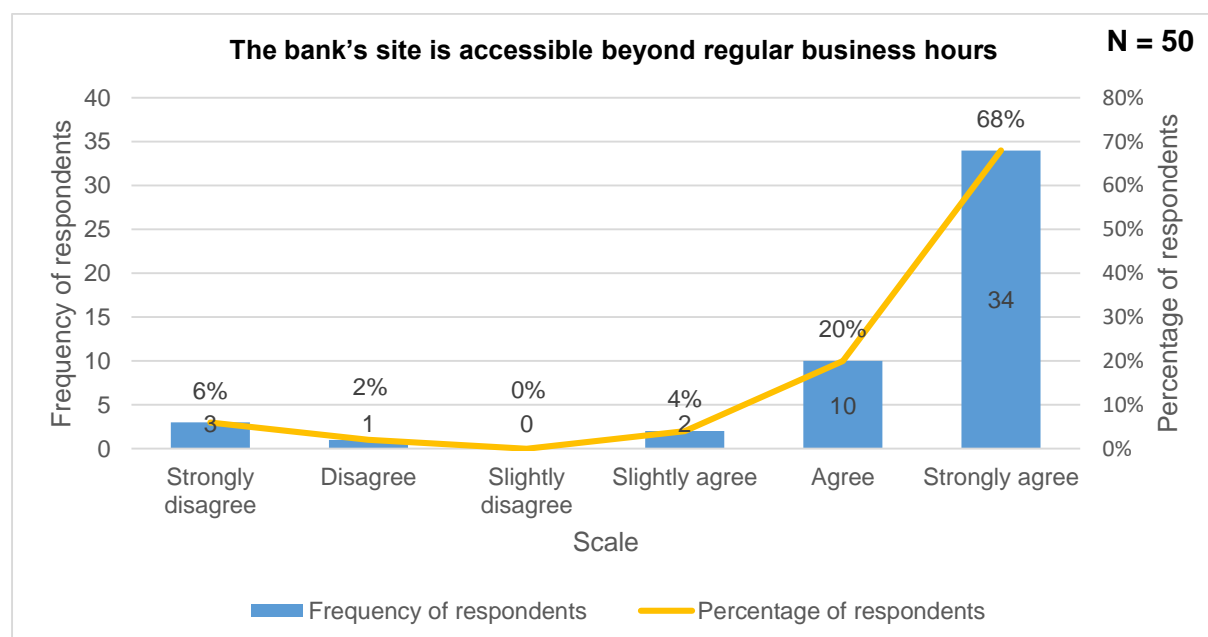


Figure 24: CE1 findings

##### b. Allows to do the transaction anywhere – CE2

Figure 25 below indicate that a large number of the sample population has provided a high level of positive agreement (actual number 45, 90%) which signifies that customers are largely satisfied. Identical to CE1 findings, it is also observed that a massive percentage of 62% of respondents strongly agree and are highly satisfied with the said variable. The remaining 10%

of the sample population (actual number 5) shared disagreement and showed a certain amount of dissatisfaction.

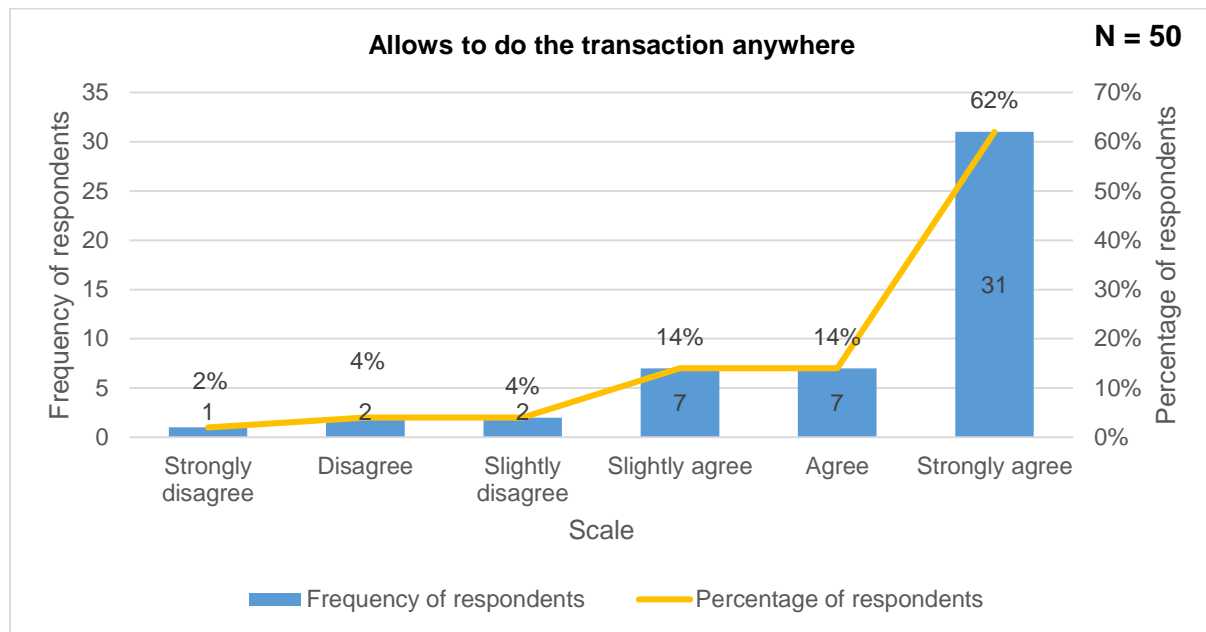


Figure 25: CE2 results

Based on the customer view on the convenience aspect, it was observed that at an average of more than circa 90% of customers perceived convenience as an essential element of online banking services for customer satisfaction. In comparison to other attributes, CE gained a huge number of strongly agree responses. On the other hand, approximately an average of 11% of customer scaled a negative response and indicated dissatisfaction, may be due to their preference for personal interaction of the traditional banking approach. Nevertheless, a substantial number of customers find online banking services as convenient, and accordingly, it can be stated that the customers are majorly satisfied with the online banking convenience aspect. The results coincide with the findings of Mbama and Ezepue (2018); Gunawardana *et al.* (2016) and Ahmad and Zu'bi (2011) who found that customers are satisfied due to convenience provided by online banking.

#### 5.3.1.1.5 Security (SE)

The SE attribute contained two variables. The question of the SE attributes scrutinized whether online banking services ensure freedom from risk and threats while performing financial and non-financial activities to determine their comfort with the online banking security aspect.

##### a. You can rely on the bank for not misusing your information – SE1

Figure 26 below illustrates that 82% of the overall sample population (41 respondents) who addressed that SE1 has a positive impact on satisfaction, and customers are satisfied. One respondent was unable to determine the impact hence did not scale the variable. The

remaining 16% of the overall sample population provided negative scale and indicated dissatisfaction with the SE1 variable.

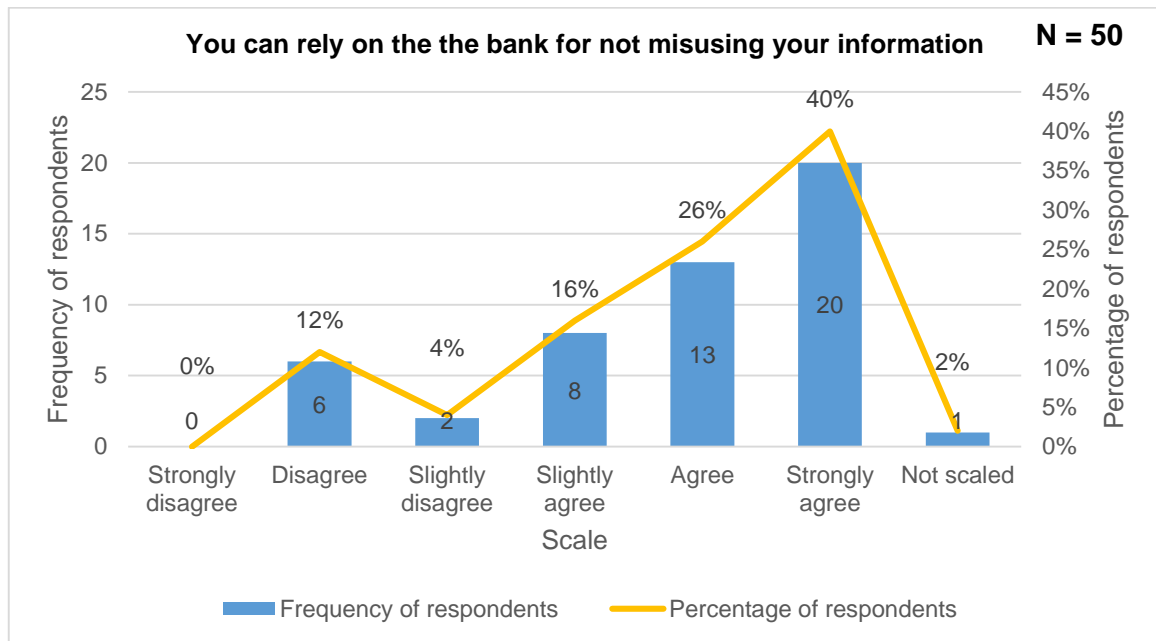


Figure 26: SE1 findings

#### b. The bank provides financial security and confidentiality – SE2

Figure 27 below findings display that 86% of respondents (actual number of 43) scaled positively which indicated that customers are satisfied. Similar to the SE1, one respondent did not scale the said variable as well. Additionally, 12% of respondents (actual number of 6) highlighted the negative scale of disagreement.

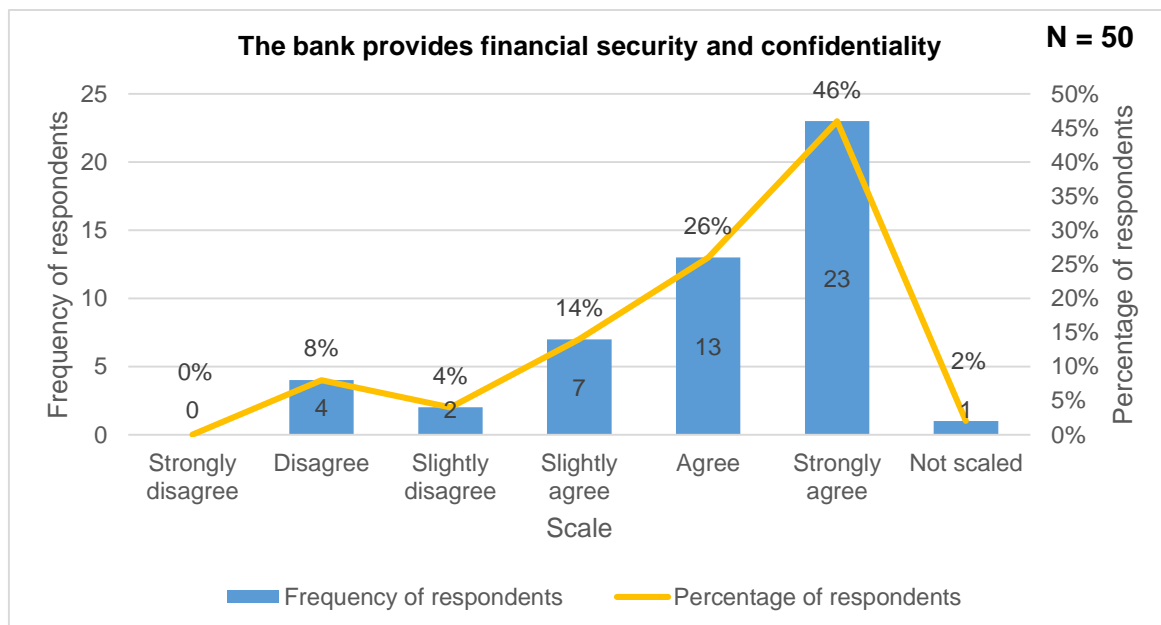


Figure 27: SE2 findings



Based on the survey results, it can be analyzed that most of the customers scaled a positive response for online banking security. An average of circa 84% of the customers stated online banking security positively impact satisfaction which indicated customer are satisfied. In their research, Asad *et al.* (2016); Ahmad and Al-Zu'bi, (2011) and Redelinghuis and Rensleigh (2010) identified that security has a positive impact on customer satisfaction. Paul *et al.* (2017) also found that customers feel secured with online banking transactions. However, the average of circa 15% provided a negative response with a disagree scale indicating a low customer satisfaction level. Shanmugam *et al.* (2015) findings emphasized that security is the main issue that prevents users from the usage of online banking in the UK. Nevertheless, in an Irish context based on the maximum agreed response, it can be substantiated that the majority of customers are satisfied with the online banking security.

#### **5.3.1.2 Objective 3 research findings.**

**” To identify the influence of demographic factors, particularly gender and age, on online banking use and customer satisfaction”**

Based on the background information obtained from the respondents, it can be stated that large numbers of users, both male and female perform online banking services in Ireland. However, the male users are slightly more as compared to female users. Furthermore, from the findings, it can be observed young adults prefer online banking use and are highly satisfied as compared to elderly customers who find security as a major concern and prefer branch banking.

#### **5.3.2 Findings of the qualitative research**

The survey also focused on gaining some qualitative insights from the customers. The respondents were asked to provide their suggestions in the questionnaire survey. Based on the information, it enabled the researcher to gain customer insights about the specific factors that highly impact customer satisfaction.

##### **5.3.2.1 Objective 2 research findings.**

**“To explore and identify the customer perspective on which online banking attribute is more influential to attain customer satisfaction”.**

This question was aimed to gain customer preferences to further boost the online banking attributes which could lead to increase customer satisfaction levels.

##### **5.3.2.1.1 Security v/s Convenience**

According to the suggestions provided by the respondents with their existing experience of online banking services, the customers expect further advanced security features for safer

banking. The respondents suggested that security aspects are a major concern for the online banking user, specifically with the “storage and confidentiality of the data”. The comments from the respondents also complement the quantitative analysis, wherein customers have indicated concerns about security attributes by providing high negative scale responses signifying a certain level of dissatisfaction. Customers are concerned about financial information being passed to third parties or other companies within the bank, which could hamper the security of financial details (Ahmad and Zu'bi, 2011). It is obvious that security is an important aspect for the customers, however, respondents also exhibited a need for flexibility for the usage of online banking services. One of the respondents, who uses AIB online banking services commented that “The payment functionality should be allowed without card reader instrument”. This indicates that customers feel burdened with the management of supplementary technological instruments and demand convenience for processing financial transactions in conjunction with better security. Therefore, it can be stated that security and convenience factor are closely related and have an impact on customer satisfaction.

#### **5.4 Key findings and conclusion**

This research has applied the two-pronged approach, namely open-ended and closed-ended questionnaire survey have directed to interesting results which concur earlier literature but also, in certain cases, found disparity with former academic research. This section intends to focus on the main findings of the conducted study and provide a conclusion for further discussion.

The questionnaire sought to first determine the demographics of the respondent. Therefore, the key finding and first observation is that there is a split of 54% / 46% between males and females. Moreover, an accumulative 73% of respondents are in 18 to 40 years of age group. Based on the findings, banks can decide on segmentation to prioritize towards the target age group that are more technologically savvy and provide customize online services for the other age group to incline towards the use of the online banking services. These findings could be substantial for banks to deliver services accurately to target specific client groups.

The findings also indicate high adoption of online banking in Ireland, 96% (actual number 50) of the sample population utilize the services, and overall 92% (actual number 46) of customers expressed positive online banking satisfaction. Interestingly the findings detected that individuals who did not use online banking, preferred branch banking or dissatisfied with online services due to security concerns are in the above 50 age group. Furthermore, most of the respondents accounting to 87% are using AIB or BOI online banking services and the rest of the respondents, only 16% use other Irish bank's online services. This highlights that the retail banking sector in Ireland is dominated by limited banks and signifies lack of competition.

These findings can enable other Irish banks to enhance their offerings and deliver innovative product and services to expand their online banking landscape.

The research has identified that all five attributes have a significant relationship and positively impact customer satisfaction. Furthermore, it can be stated that as among all five variables, RE is the most dominant factor to impact customer satisfaction, approximately an average of 96% of the customers provided positive responses. The customers found that online banking is a highly reliable channel in terms of provided information and functionality. Additionally, CE was followed by RE, with an average of 90% of respondents that are satisfied and an average 65% of strongly agreed and regarded it as an important aspect for customer satisfaction. Other attributes consisting of EOU, EF and SE, customers did scale a certain level of disagreement, however, on the contrary, for the said attributes, majority of respondents largely agreed that they positively impact customer satisfaction. In essence, it can be inferred that banks cannot ignore any of the five attributes to provide customer satisfaction.

The additional key finding from the suggestions from the customer's standpoint is that the retail banks should focus more on the aspect of security and convenience for online banking. The customers prefer further advanced security to protect their financial and personal details from hacking and fraudulent activities. On the other hand, they also require minimal constraints while performing online banking transactions.

The following chapter intends to discuss and elaborate on the findings in more detail and provide conclusion.

## Chapter 6 – Discussion

---

### 6.1 Introduction

This section highlights possible validations for the findings in relation to identified relationships from the data analysis with reference to the literature. The objective of this section is to discuss, infer, and propose implications of the findings.

### 6.2 Objective 1

**“To examine the impact of online banking attributes (ease of use, convenience, efficiency, reliability, and security) on customer satisfaction”.**

Reliability and convenience are analyzed as the dominant variable for the consumers while assessing the impact on customer satisfaction in the Irish context. The other three online banking attributes that customers find important to achieve customer satisfaction are, in order, ease of use, efficiency and security. It is noted that all of the attributes have highly scored positive responses with an approximate overall average of more than 85% from the sample population.

#### 6.2.1 Reliability and Convenience

In relation to previous literature, online banking reliability is considered as a most credible attribute by the customers uncovered by Malik and Oberoi (2017) and George and Kumar (2014), while investigating its impact on customer satisfaction in other jurisdictions. The reliability comprises of user trust in online banking services, as assured services will be delivered to the end-user (George and Kumar, 2014). Similarly, Mbama and Ezepue (2018) identified convenience as an important factor for customer satisfaction in the context of online banking in the UK. The findings of this study also highlight resemblances as the majority of respondents strongly agreed that the convenience attribute has an impact on customer satisfaction. The significance of reliability and convenience for consumers in Ireland denotes that almost all the Irish banks have been successful in delivering expected online services enabling the customers to transact from any location 24/7. In contrast, Loonam and O’Loughlin (2008) research in the Irish context argues that in the case of failure to providing reliable services to customers, this can cause discontinuation of online banking services. The implication of these results is that albeit banks have been successful in providing reliable and convenient online services, to enhance both the attributes it is essential for banks to ensure that they constantly manage to deliver trustworthy information and provide consistent access to the customer without any disruptions.

### **6.2.2 Ease of Use**

In the Irish context, the customers using online banking are satisfied with the web technologies and are used frequently as they have user-friendly features. However, a certain number of customers still encounters difficulties to adapt and operate online banking services perhaps due to the complexities involved in the website navigation and understanding the available information. The provision of an easy to use interface for all online banking customers remains a task for banks to win the existing customers and to attract potential clients. Hernández, Jiménez and Martín (2009) argue that it is essential for organizations to design their website to deliver ease of use functionality, which attracts customers to revisit the site; failure to provide this may lead users to visit the website less. Therefore, banks need to focus on developing the website design and content to make it visually more attractive to the existing customers and also to appeal to new customers. The practical implication of the research results is that a user-friendly and robust website may enable banks to promote their services through effective and evocative functionality while also maintaining their prime objective of selling banking services.

### **6.2.3 Efficiency**

In regard to the efficiency attribute in the Irish context, an average of circa 88% of respondents deem to be satisfied, which indicate a positive impact. This research contradicts the findings of Gunawardana *et al.* (2015) and George and Kumar (2014), where they found that the customer does not feel online banking as time-efficient technology and does not impact customer satisfaction. Nevertheless, the results suggest that efficient online banking services are an equally important attribute for customer satisfaction. In other words, customers consider website efficiency as an essential attribute for performing online services. Although, a large number of customers are satisfied with the efficiency of the online banking services, still, banks need to improve the efficiency aspect as an approximate average of 12% of customers are still dissatisfied. Ho, Kuo and Lin (2012) address that in order to deliver efficient and effective services, internet banking should offer good quality online services along with updated technology. The individuals are expected to spend more time if the quality of the website is better. The implication of these results is that in order to gain the competitive advantage, banks should concentrate on elevating the download speed to improve the overall performance of the online services to allow customers to transact swiftly and concurrently to enable them to attain customer satisfaction.

### **6.2.4 Security**

The security attribute recorded an approximate average of 84% of positive responses indicating it as an important variable, and that customers are satisfied with the online banking

security in Ireland. The findings are consistent with Paul *et al.* (2017) who highlighted that customers are satisfied with the online banking security aspects. The customers are reliant on banks for maintaining confidentiality and protecting the financial information from cyber-attacks. However, of all the attributes included in the research, the security attribute is a concern for the Irish customers. As compared to other attribute variables in the study, both variables of the security attribute gained a double-digit negative response, i.e. SE1 scaled 16% and SE2 scaled 12%. The findings of the research coincide the findings of Shanmugam *et al.* (2015), where the significance of the online banking security concerns still remain a customer priority, despite the consistent efforts of technological advancements being introduced to abate the concern and enhance the internet banking security aspect. The analysis that customer satisfaction is influenced by the security attribute unfolds the necessity to mitigate customer perception about the risk issues inherent in online banking usage. Brun *et al.* (2016) suggest that security of information is key to enhance online trust. The customers are more likely to execute online transactions if online banking trust is developed (McNeish, 2015; Dahlstrom *et al.*, 2014). Moreover, Jansen and Van Schaik (2018) point out that technology on its own is unable to secure the people from online threats. If the online banking customers fail to take precautionary steps, the online banking safety can be easily compromised. Thus, the online banking security attribute entails a mutual relationship, which can be attained with efficient communication between the bank and the customers. Based on the analysis, it can be stated that the Irish banks have been meticulous to ensure that obligatory firewalls are employed to combat fraudulent scams and provide advice to customers on the essential steps for secured banking. The implication of the results is that even though banks offer online banking security, still, there is a continuing necessity to protect against breaches by online cyberattacks or otherwise. The overriding take-home for banks is constant attention on concerns that customers consider as crucial for customer satisfaction.

## **6.3 Objective 2**

**“To explore and identify which online banking attribute is more influential to attain customer satisfaction”.**

### **6.3.1 Security Vs Convenience**

In terms of customer perspective when identifying specific online banking attributes, the findings disclose that the majority of the respondents expect security aspects as the prime focus to ensure financial safety and confidentiality, but also emphasize on convenience for accessing the online banking services. The customer's suggestions revealed that there is a rising need from customers for online services to offer a balance between security and convenience in performing online transactions. Khare, Mishra and Singh (2012) suggested

that convenience and efficiency attributes would only be useful to customers if they are confident about the security features. On the other hand, Shanmugam *et al.* (2015) explains that, even the introduction of card readers to provide secure services does not resolve the security concerns of the customer; however, such technological development, limits customer's ease and access of anytime and anywhere use due to the need of card readers for accessing the online banking services. Based on the survey, convenience and security of online services can be considered as the most influential attributes for the consumers. In terms of online banking, embedded security procedures and convenient website accessibility should meet customer requirements in the future. This result indicates the need for further research and more insights on this question to address the issues encountered with the convenience and security of online banking.

### **6.4 Objective 3**

**“To identify the influence of demographic factors, particularly gender and age, on online banking use and customer satisfaction”**

The research identified 96% of internet banking users among the sample population (refer Table 9). Additionally, the overall satisfaction level is extremely high as 92% of the Irish individuals who used online banking signified as satisfied with the offered services (refer Table 11). Furthermore, there are slightly more male respondents, compared to female respondents, who use online banking. According to the CSO (2018) report, the percentage of females in Ireland is more than males. Therefore, female clients should be educated about the advantages of using online banking services. This would enable Irish banks to engage more customers for online banking services. The analysis also identified that online banking is more popular among the younger generation. The implication of this finding is that a certain age group of customers, especially elderly people, still prefer traditional banking, and even if they use online services still expressed issues with data security. The findings correspond to Sharma and Sharma (2011) indicating senior citizen's unfamiliarity with internet services, and they are reluctant to share bank details online or using them. Furthermore, the CSO (2018) Irish census 2016 report estimated that the population among all age groups is increasing except individuals aged between 20-34 years. Thus, banks need to focus on shifting consumer behaviour and changing demographics by segregating target customer groups. Two separate major groups of customers can be observed as tech-oriented young adults and elderly digital deniers. The most important customers for banks in the long run, are the tech-savvy group who would eventually adopt online banking to perform financial transactions. Furthermore, over a period of time, the group of technology-friendly young adults will develop into elderly digital adopters and the elderly digital non-adopters will diminish over time. The practical implication of this result is that it is extremely essential for banks to increasingly focus and win

the younger generation of customers and converting existing traditional customers to online banking customers. This is the strategy banks should adopt going forward.

## **6.5 Conclusion**

In this chapter, the main findings from the three observable objectives were discussed in detail. In most cases, the data has positively supported the objectives of the research, and the aims of the research were accomplished. It can be observed that banks in Ireland are operating to offer the best possibilities to their customers in relation to innovative online banking services; simultaneously, the customers in Ireland are adopting the evolving technological advances. An unexpected finding was identified in relation to the efficiency attribute. The implications of the main results were also reflected and developed.

The following section provides conclusion to the study and further recommendations for future research.



## **Chapter 7 – Conclusions and Recommendations**

---

### **7.1 Introduction**

The objective of this research was to examine the impact of online banking attributes on customer satisfaction based on the perspective of customers in Ireland. This section provides an outline of the overall research context from the analysis and it proposes recommendations for future and potential applications.

### **7.2 Conclusions**

#### **7.2.1 Banking and technology**

The literature review revealed some relevant areas for research when investigating online banking attributes and customer satisfaction. The current reforms, regulations, and technological advancements have pushed banks to provide innovative and quality services to attain customer satisfaction. Furthermore, an investigation of the Irish banking industry provided an insight into the retail banking market share. The analysis revealed that few major retail banks dominate the banking industry resulting in less competition. Retail banks have transformed services from traditional to digital banking due to advanced internet technology. The banks in the western world are closing branches and ATM machines to push customers to use using digital payment and infrastructure to build a cashless economy (Scott, 2018). It can be concluded that online banking is the future, digitization will replace conventional banking practices. The leading retail banks are leveraging technological innovations as a central tool for standard and financial services. The online services perform as a digital branch and act as a starting point for customer interaction. Due to technology integrated systems, banks can perform efficiently and competitively in the financial sector, thereby providing quality services to the customers, which ultimately leads to customer satisfaction. The literature also unfolded that, overall banking strategy has changed due to changing customer preference, and changing technology has resulted in a shift from physical to digital banking services (Chandok and Gupta, 2013).

#### **7.2.2 Role of online banking and impact on customer satisfaction**

Customers and their satisfaction are key for a business to gain competitive advantage, and it is extremely essential for online retail banks to identify whether the expectation of the customer is met in order to measure the satisfaction level. An overview of the online banking landscape in Ireland provided an understanding of the customer approach to online banking and their perspective towards banking technology and industry. The reports on Irish online banking usage indicate exponential growth and a further expectation to rise significantly. The online

banking service's intangible nature demands banks to focus on satisfaction for customer retention, as discussed in the literature review (Malik and Oberoi, 2017). Online banking service quality and its potential to develop a positive impact on customer satisfaction, which relates to its intangible benefits, were discussed in detail. The conclusion is that banks need to deliver the best services with distinctive features resulting in increased customer satisfaction and improved customer retention. After investigating the online banking attributes and customer satisfaction, referencing works by Patel and Patel (2018); Raza *et al.* (2015); Shrimali (2015) and Eze *et al.* (2011) all explored certain relevant aspects of online banking on customer satisfaction. However, none of the earlier research focused on the key online banking attributes in the context of Ireland which is the main aim of this research.

### **7.2.3 Research model development**

Through the literature review, a foundation was developed to build this study and to help define the objectives and aims of the research. Methodological approaches and philosophies were explored to detect the appropriate fit for the research. This study was determined as positivist philosophy in conjunction with deductive and inductive and the mixed method approach, utilizing the model proposed by Gunawardana *et al.* (2015). The findings from these combined approaches, survey questionnaire and suggestions, assisted with developing the tools to accomplish the objectives of the research, specifically, to examine the retail banking customer perspective on impact of online banking attributes on customer satisfaction in Ireland.

### **7.2.4 Focus on online banking attributes**

This research attempted to develop a scale to examine the impact of retail online banking attributes on customer satisfaction based on Irish customer perspective. Accordingly, the study adopted the five online banking service attributes consisting of EOU, RE, EF, CE, and SE proposed by Gunawardana *et al.* (2015). The analysis and findings observed mostly supported earlier views held by the researchers. It was noticed that customers consider reliability as the most important attribute to attain customer satisfaction which complemented the findings of Malik and Oberoi (2017) and Gunawardana *et al.* (2015). George and Kumar (2014) further unveiled that reliability and customer satisfaction is also facilitated by the trust. Customer satisfaction was also driven by online banking convenience provided to the customers to perform banking activities beyond regular business hours anywhere in the country, and thus, there are no contradictions with previous literature findings by Mbama and Ezepue (2018). It denotes online banking provides seamless banking experience virtually resulting in better access as compared to traditional branch banking. Subsequently, the efficiency attribute also had a significant effect on customer satisfaction in Ireland and

observed unexpected results contradictory to findings with Gunawardana *et al.* (2015) and George and Kumar (2014). A further conclusion can be drawn that retail banking has become more efficient and faster through online services. Internet banking has potentially enabled customers to handle account management and perform financial transactions directly with the bank and saves their time, which is advantageous in a competitive environment. Furthermore, attributes of ease of use and security also resulted in a positive impact on customer satisfaction, which coincides with previous research by Asad *et al.* (2016) but security was evaluated as top concerns in the research. The conclusion of these findings stands out, that although Irish bank's online websites provide better navigation and simplified content along with appropriate security features, there is still an ongoing concern for the customers with the complexities of the online banking process and probable loss of personal information or cyber-attacks, thus banks need to constantly prioritize this for customer retention.

#### **7.2.4 Address changing demographic needs**

The final objective was to evaluate the demographic factors that are substantial in determining online banking use and customer satisfaction in Ireland. This study identified that elderly customers are concerned about the security aspect and lack skills required to operate the online banking services in Ireland resulting in dissatisfaction. Studies conducted by Sharma and Sharma (2011) showed resemblances with this research, in relation to, concerns and issues of elderly people for online banking usage. Thus, it can be concluded that elderly customers are technology averse and resist online banking usage. Furthermore, a recent report by Reddan (2019) indicated that Irish women are more cautious than men when it comes to financial aspects. It may be due to a lack of trust or preference of personal interactions with bank officials. Therefore, the banks need to address the issues by building confidence and develop the awareness of the advantages among the females and encourage them to use online banking services. Similar to findings by Ivanovska and Pavlovska (2017); George and Kumar (2014) and Eze *et al.* (2011), the results of the present research show that younger adults tend to use online banking and are highly satisfied with the services. It can be concluded that retail banks need to act by addressing the difference related to two major groups and ensure to meet the expectations of the technology-friendly and technology-resistant customers. However, technology-friendly customers should be provided immediate attention as more than two-third represent the younger generation.

#### **7.2.5 Overall outcome**

The purpose of this study is to examine the relationship between online banking attributes and customer satisfaction in the view of Irish retail banking customers. The research successfully achieved its objectives as intended. The first objective has been achieved by the survey; the

Irish customer indicated that all the five online banking attributes are vital for customer satisfaction, whereas reliability and convenience are the most dominant feature; however, the security attribute needs more attention and must be enhanced to build customer trust. The second objective involved identifying the most influential online banking attribute to attain customer satisfaction, it was noted that customer need the flexibility between security and convenience. The majority of the suggestions provided by the sample population agreed though that online security is vital to perform financial activities and that the advanced technological aspects should not limit the access to utilizing the services. The implication of the findings is that despite the need for protection from cyber-attacks and security threats, the banks should also consider bridging the gap of the easy access along with high-end technological security for online banking. Objective three has also been achieved. The findings of the study from the sample population revealed a large number of Irish customers use online banking and are extremely satisfied with the services provided by the retail banks. However, the survey also revealed that comparatively, female customers are still concerned about the security and trust with the use of online banking, and in general from an Irish customer perspective, the security attribute remains a major concern. Thus, banks should provide added urgency to resolve the issues faced by female customers to attract using online banking services. In relation to previous literature, it has been observed that the security aspect impacts the application ease of use, which is one of the key criteria of customer satisfaction (Svilar and Zupančič, 2016). In addition, Khare, Mishra and Singh (2012) suggest that if the customers are confident about the security features only then the efficiency and convenience attributes would be useful. Chen, Hsiao and Hwang (2012) also investigated customer satisfaction of internet banking and they identified ease of use and security constructs as crucial aspects for banks to attract the customers, and that customers expect better user-friendly interface and security aspect. Therefore, in context of the present study, it can be inferred that the security attribute is interrelated with ease of use, efficiency, and convenience. A further conclusion can be derived that if customers feel safe using online service and security concerns are resolved, then other related attributes will also be considered as advantageous features and will enable banks to attract and retain a large number of customers. The blend of the survey questionnaire and suggestions process enables the researcher to conclude that the Irish retail banking customer embraces online banking services.

The outcomes of this research could be of interest for academic studies, as it delivers appropriate results and a relevant framework for detailed and deeper investigation. It may gain the interest of banking management in measuring performance and developing strategies, as this study presents the customer perspective regarding five retail online banking attributes and its impact on customer satisfaction. This study identified the important attributes and key

issues of online banking for customers and further proposes areas where retail banks can optimize their online services to improve customer satisfaction. Therefore, the research in a way has progressed the theory of customer perspective of online banking services and customer satisfaction. After evaluating all the statistics, data and appropriate information gathered from previous literature, derive a conclusion that the features provided by the banks through online banking services are crucial for achieving the satisfaction of customers. Certainly, banks need to invest heavily in technology, and security threats have been found to be pertinent for online banking. Customers believe that banks should assure that e-banking and its operation are trustworthy (Sadeghi *et al.*, 2017). Therefore, the banks need to address the concerns of the customers specifically in relation to security and protection of their data and should further highlight the online banking benefits for current and potential clients. Increased online security systems will significantly upsurge customer confidence resulting in enlarged satisfaction levels in future. In addition, the banks can harness technology friendly online systems to retain customers to avoid churn and increase satisfaction levels with advanced security aspects. With constant digital technological advancements and changing customer needs, the banks also need to constantly transform to adapt with disruptive technologies instead of being disrupted, along with a focus on satisfying the customer needs as it would allow banks to not only survive but also to thrive in the digital age by retaining and attracting new customers. Furthermore, several studies of online banking customer satisfaction assessment were conducted in numerous countries but not in Ireland. Given that, this research was narrowed to the IFSC location, Dublin, Ireland; therefore, this study filled the void in the current literature by gaining and providing insights from the Irish customer perspective on retail online banking attributes and its impact on customer satisfaction.

### **7.3 Recommendations for future research**

Primarily, this study focused on five key online banking attributes to measure customer satisfaction. For future research, other validated scales of online banking service quality such as perceived risk and trust can be used as suggested by Yu, Balaji and Khong (2015) to gain further insights on online banking customer satisfaction. Secondly, this research targeted Irish retail banking customers and data was collected from respondents in IFSC, Dublin, who use online banking services; therefore, the sample size of the respondents was limited. Thus, to generalize the findings to provide a representation of the whole population, a future study should cover other areas of Ireland to reach a greater number of respondents that would enable the researcher to achieve larger sample size population. Additionally, the researcher should perhaps investigate the variable that was measured as most suitable for the Irish consumers, as it would allow a comparison across different rural and urban areas in Ireland with a larger sample size.

Finally, it is recommended to use a two-pronged research approach of a quantitative questionnaire survey and qualitative structured interviews, as use of a single approach will not deliver the required key information when examining the customer perspective regarding online banking impact on satisfaction levels.

## References

---

- Agarwal, S. and Kothari, R. (2018) 'Adoption of internet banking in India: A comparative study between rural and urban banking customers', *CLEAR International Journal of Research in Commerce & Management*, 9(12), pp. 1–5.
- Ahmad, A. M. K. and Al-Zu'bi, H. A. (2011) 'E-banking functionality and outcomes of customer satisfaction: an empirical investigation', *International Journal of Marketing Studies*, 3(1), pp. 50-65. doi: 10.5539/ijms.v3n1p50.
- Ahmad, A., Rahman, O. and Khan, M. N. (2016) 'Consumer's perception of website service quality: An empirical study', *Journal of Internet Commerce*, 15(2), pp. 125–141, Business Source Complete. doi: 10.1080/15332861.2016.1144442.
- Alhassany, H. and Faisal, F. (2018) 'Factors influencing the internet banking adoption decision in North Cyprus: An evidence from the partial least square approach of the structural equation modeling', *Financial Innovation*, 4(1), pp. 1-29, Springer Nature. doi: 10.1186/s40854-018-0111-3.
- Amin, M. (2016) 'Internet banking service quality and its implication on e-customer satisfaction and e-customer loyalty', *International Journal of Bank Marketing*, 34(3), pp. 280-306, Emerald Insight. doi: 10.1108/IJBM-10-2014-0139.
- Asad, M. M., Mohajerani, N. S. and Nourseresh, M. (2016) 'Prioritizing factors affecting customer satisfaction in the internet banking system based on cause and effect relationships', *Procedia Economics and Finance*, 36, pp. 210–219, ScienceDirect. doi: 10.1016/S2212-5671(16)30032-6.
- Assegaff, S. (2016) 'The Effect of Service Quality to Customer Satisfaction by Using Internet Banking Service in Jambi', *Asian Journal of Technology Management*, 9(1), pp. 21-36. doi: 10.12695/ajtm.2015.9.1.3.
- Ayo, C. K., Oni, A. A., Adewoye, O. J. and Eweoya, I. O., (2016). 'E-banking users' behaviour: e-service quality, attitude, and customer satisfaction'. *International Journal of Bank Marketing*, 34(3), pp.347-367, Business Source Complete. doi: 10.1108/IJBM-12-2014-0175.
- Bakar, J. A., Clemes, M. D. and Bicknell, K. (2017) 'A comprehensive hierarchical model of retail banking', *International Journal of Bank Marketing*, 35(4), pp. 662–684, Emerald Insight. doi: 10.1108/IJBM-03-2016-0041.
- Bala, V. (2015) 'E-banking: Boon to financial market with challenges of insecurity', *CLEAR International Journal of Research in Commerce & Management*, 6(4), pp. 76–79.

Banking and Payments Federation Ireland (BPFI) (2015) *Mobile banking logins exceed online banking logins for the first time*. Available at: <https://www.bpfi.ie/news/mobile-banking-logins-exceed-online-banking-logins-first-time/> [Accessed 20 April 2019].

Banking and Payments Federation Ireland (BPFI) (2018). *BPFI Payments Monitor shows significant growth in contactless payments*. Available at: <https://www.bpfi.ie/news/bpfi-payments-monitor-shows-significant-growth-contactless-payments/> [Accessed 20 April 2019].

Baruch, Y. and Holtom, B. C. (2008) 'Survey response rate levels and trends in organizational research'. *Human Relations*, 61(8), pp.1139-1160, SAGE. doi: 10.1177/0018726708094863.

Beck, T. (2014) 'Ireland's banking system - Looking forward', *The Economic and Social Review*, 45(1), pp. 113-134.

Belás, J. (2007) 'The future of retail banking in EU', in *11th International Conference on Finance & Banking: Future of the European Monetary Integration*, pp. 83–91.

Brtnikova, M., Crane, L. A., Allison, M. A., Hurley, L. P., Beaty, B. L. and Kempe, A. (2018) 'A method for achieving high response rates in national surveys of U.S. primary care physicians', *PLoS ONE*, 13(8), pp. 1–13, Academic Search Complete. doi: 10.1371/journal.pone.0202755.

Brun, I., Rajaobelina, L. and Ricard, L. (2016) 'Online Relationship Quality: Testing an Integrative and Comprehensive Model in the Banking Industry', *Journal of Relationship Marketing*, 15(4), pp. 219–246, Business Source Complete. doi: 10.1080/15332667.2016.1242400.

Bryman, A. and Bell, E. (2015) *Business research methods*. 4th edn. Oxford: Oxford University Press.

Business Wire (2019) *What's new in the retail banking industry? Read Infiniti Research's updates on the recent innovations and future trends in retail banking*. Available at: <https://www.businesswire.com/news/home/20190328005602/en/> [Accessed 15 April 2019].

Central Statistics Office (CSO) (2018) *Statistical Yearbook of Ireland 2016*. Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-syi/psyi2016/people/cen/> [Accessed 2 July 2019].

Chandok, M. and Gupta, N. L. (2013) 'Examining factors of customer experience and their mediating role in retail banking sector: An empirical study', *Global Management Review*, 7(4), pp. 30–39.



Chawla, S. and Sehgal, R. (2012) 'An empirical analysis of the awareness and satisfaction level of internet banking users with respect to demographic profile', *IUP Journal of Marketing Management*, 11(1), pp. 62–83.

Chen, R. F., Hsiao, J. L. and Hwang, H. G. (2012) 'Measuring customer satisfaction of Internet banking in Taiwan: scale development and validation', *Total Quality Management & Business Excellence*, 23(7/8), pp. 749–767, Business Source Complete. doi: 10.1080/14783363.2012.704284.

Chung, K. and Shin, J. (2010) 'The antecedents and consequents of relationship quality in internet shopping', *Asia Pacific Journal of Marketing and Logistics*, 22(4), pp.473-491, Emerald Insight. doi: 10.1108/13555851011090510.

Collier, J. E. and Kimes, S. E. (2013) 'Only if it is convenient: Understanding how convenience influences self-service technology evaluation', *Journal of Service Research*, 16(1), pp. 39–51, SAGE. doi: 10.1177/1094670512458454.

Collis, J. and Hussey, R. (2014) *Business research: A practical guide for undergraduate and postgraduate students*. 4th edn. London: Palgrave.

Cooper, D. and Schindler, P. (2014). *Business research methods*. 12th edn. New York: McGraw-Hill.

Corporate Finance Institute (2019) *Top banks in Ireland. An overview of leading Irish financial institutions*. Available at:

<https://corporatefinanceinstitute.com/resources/careers/companies/banks-in-ireland/> [Accessed 21 April 2019].

Cradden, J. (2019) 'Your money: Can you beat fees and bank on a digital-only current account?' *Independent.ie.*, 3 March. Available at: <https://www.independent.ie/business/personal-finance/your-money-can-you-beat-fees-and-bank-on-a-digitalonly-current-account-37872058.html> [Accessed 23 April 2019].

Creswell, J. W. (2014) *Research design: Qualitative, quantitative and mixed methods approaches*. 4th edn. London: SAGE.

Dahlstrom, R., Nygaard, A., Kimasheva, M. and Ulvnes, A. M. (2014) 'How to recover trust in the banking industry? A game theory approach to empirical analyses of bank and corporate customer relationships', *International Journal of Bank Marketing*, 32(4), pp. 268–278, Emerald Insight. doi: 10.1108/IJBM-03-2014-0042.

Damghanian, H., Zarei, A. and Siah Sarani Kojuri, M. A. (2016) 'Impact of Perceived Security on Trust, Perceived Risk, and Acceptance of Online Banking in Iran', *Journal of Internet*

*Commerce*, 15(3), pp. 214–238, Business Source Complete. doi: 10.1080/15332861.2016.1191052.

Daneshvar, P. and Ramesh, H. N. (2011) 'Gaining competitive advantage through quality of internet banking services -- An empirical study in the Indian private bank sector', *Journal of Marketing & Communication*, 6(3), pp. 34–43.

Department of Communications, Climate Action and Environment (DCCAE) (2019) *Digital Economy worth €12.3bn and Irish consumers spending €850,000 per hour online*. Available at: <https://www.dccae.gov.ie/en-ie/news-and-media/press-releases/Pages/Trading-Online-Enterprise-Impact-Reports.aspx> [Accessed 2 July 2019].

Eurostat (2018). *Internet use by individuals*. Available at: <https://ec.europa.eu/eurostat/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tin00028&language=en> [Accessed 11 August. 2019].

Eze, U. C., Manyeki, J. K., Yaw, L. H. and Har, L. C. (2011) 'Conceptualizing the key factors influencing internet banking adoption among young adults', in 2011 *International Conference on Business, Engineering and Industrial Applications (ICBEIA)*. Kuala Lumpur, Malaysia, 5-7 June 2011, pp. 99-102, IEEE Xplore. doi: 10.1109/ICBEIA.2011.5994267.

Fryrear, A. (2015) 'What's a good survey response rate?', *Survey Gizmo Blog*, 27 July. Available at: <https://www.surveygizmo.com/resources/blog/survey-response-rates/> [Accessed 11 June 2019].

Gašević, D., Vranješ, M. and Drinić, D. (2016) 'Identification of key determinants of satisfaction of users of electronic banking', *Economic Themes*, 54(2), pp. 301–321.

George, A. (2018) 'Perceptions of Internet banking users — a structural equation modeling (SEM) approach'. *Indian Institute of Management Bangalore Management Review*. 30(4), pp. 357–368, ScienceDirect. doi.org/10.1016/j.iimb.2018.05.007.

George, A. and Kumar, G. (2014) 'Impact of service quality dimensions in internet banking on customer satisfaction', *Decision*, 41(1), pp. 73–85. doi: 10.1007/s40622-014-0028-2.

Ghauri, P.N. and Grønhaug, K., (2005). *Research methods in business studies: A practical guide*. Pearson Education.

Goswami, S. (2013) 'Measuring customer satisfaction on WebQual dimension for online banking: An empirical study', *Paradigm*, 17(1-2), pp. 25–36, SAGE. doi: 10.1177/0971890720130104.

- Gunawardana, H. M. R. S. S., Kulathunga, D. and Perera, W. L. M. V. (2015) 'Impact of self service technology quality on customer satisfaction: A case of retail banks in western province in Sri Lanka', *Gadjah Mada International Journal of Business*, 17(1), pp. 1–24.
- Hamzah, Z. L., Lee, S. P. and Moghavvemi, S. (2017) 'Elucidating perceived overall service quality in retail banking', *International Journal of Bank Marketing*, 35(5), pp. 781-804, Emerald Insight. doi: 10.1108/IJBM-12-2015-0204.
- Heidari, H., Mousakhani, M. and Rashidi, H. (2014) 'The impact of traditional and electronic service quality on customer satisfaction, trust and loyalty in banking industry', *International Journal of Scientific Management & Development*, 2(11), pp. 614–620.
- Hernández, B., Jiménez, J., Martín, M. J. (2009) 'Key website factors in e-business strategy', *International Journal of Information Management*. 29(5), pp. 362-371, ScienceDirect. doi: 10.1016/j.ijinfomgt.2008.12.006.
- Ho, L.-A., Kuo, T.-H. and Lin, B. (2012), 'The mediating effect of website quality on Internet searching behavior', *Computers in Human Behavior*, Vol. 28 No. 3, pp. 840-848, ScienceDirect. doi: 10.1016/j.chb.2011.11.024.
- Horn, R. (2009). *Researching and writing dissertations*. 1st ed. London: Chartered Institute of Personnel and Development, p.136.
- Isac, C. and Drigă, I. (2015) 'Internet Banking Services - a Business Necessity in the Third Millennium', *Annals of the University of Petrosani Economics*, 15(2), pp. 53–62.
- Ismail, L. B. and Alawamleh, M. (2017) 'The Impact of Online Banking of Customer Satisfaction in Jordan', *Journal of Organisational Studies & Innovation*, 4(2), pp. 1–13. Available at: <http://www.mbacademy.org.uk/journals/2017-2018/vol-4/issue-2/Loiy%20Bani%20Ismail%20and%20Mohammad%20Alawamleh.pdf> [Accessed 13 August 2019].
- Ivanovska, L. P. and Pavlovska, R. (2017) 'Customer satisfaction with electronic banking in the Republic of Macedonia', *Journal of Sustainable Development*, 7(17), pp. 87–104.
- Jansen, J. and Van Schaik, P. (2018) 'Testing a model of precautionary online behaviour: The case of online banking', *Computers in Human Behavior*, 87, pp. 371-383, ScienceDirect. doi: 10.1016/j.chb.2018.05.010.
- Jayachandran, A. (2019) 'E-banking or branch banking? Preference of senior citizens in Kerala', *IUP Journal of Bank Management*, 18(2), pp. 19–29.
- John, R. R. (2015) 'Review of literature for scale development: E-service quality', *CLEAR International Journal of Research in Commerce & Management*, 6(7), pp. 77-82.

- Kaur, N. and Kiran, R. (2015) 'E-banking service quality and customer loyalty: Changing dynamics of public, private and foreign bank consumers in India', *Global Business & Management Research*, 7(1), pp. 74–92.
- Khan, M. S., Mahapatra, S. S. and Sreekumar, N. (2009) 'Service quality evaluation in internet banking: An empirical study in India', *International Journal of Indian Culture and Business Management*, 2(1), pp. 30-45.
- Khare, A., Mishra, A. and Singh, A. B. (2012) 'Indian customers' attitude towards trust and convenience dimensions of internet banking'. *International Journal of Services and Operations Management*, 11(1), pp.107-122.
- Kumbhar, V. M. (2011) 'Factors affecting the customer satisfaction in e-banking: Some evidences form Indian banks', *Management Research & Practice*, 3(4), pp. 1–14.
- Kundu, S. and Datta, S. K. (2015) 'Impact of trust on the relationship of e-service quality and customer satisfaction', *EuroMed Journal of Business*, 10(1), pp. 21-46, Emerald Insight. doi: 10.1108/EMJB-10-2013-0053.
- Lau, M. M., Cheung, R., Lam, A. and Chu, Y. (2013) 'Measuring service quality in the banking industry: A Hong Kong based study'. *Contemporary Management Research*, 9(3), pp. 263–282, Academic Search Complete. doi: 10.7903/cmr.11060.
- Liang, C.-C. and Nguyen, N. L. (2018) 'Marketing strategy of internet-banking service based on perceptions of service quality in Vietnam', *Electronic Commerce Research*, 18(3), pp. 629–646, Springer. doi: 10.1007/s10660-017-9261-z.
- Liao, C., Huang, Y.-J. and Hsieh, T.-H. (2016) 'Factors influencing internet banking adoption', *Social Behavior & Personality: An International Journal*, 44(9), pp. 1443–1455, Psychology & Behavioral Sciences Collection. doi: 10.2224/sbp.2016.44.9.1443.
- Liébana-Cabanillas, F., Martínez-Fiestas, M., Rejón-Guardia, F. and Muñoz-Leiva, F. (2012) 'Gender as a moderating element of customer satisfaction with electronic banking? An empirical study', *International Journal of Management Science & Technology Information*, 5, pp. 1–34.
- Liébana-Cabanillas, F., Muñoz-Leiva, F., Sánchez-Fernández, J. and Viedma-del Jesús, M. (2016) 'The moderating effect of user experience on satisfaction with electronic banking: empirical evidence from the Spanish case', *Information Systems & e-Business Management*, 14(1), pp. 141–165, ProQuest. doi: 10.1007/s10257-015-0277-4.
- Lindemann, N. (2018) *What's the average survey response rate?* Available at: <https://surveyanyplace.com/average-survey-response-rate/> [Accessed 11 June 2019].

- Ling, G., Fern, Y., Boon, L. and Huat, T. (2016) 'Understanding customer satisfaction of internet Banking: A case study in Malacca'. *Procedia Economics and Finance*, 37, pp. 80-85.
- Loonam, M. and O'Loughlin, D. (2008) 'Exploring e-service quality: A study of Irish online banking', *Marketing Intelligence & Planning*, 26(7), pp. 759–780, Emerald Insight. doi: 10.1108/02634500810916708.
- Makarević, N., Secim, H. and Toycan, M. (2014) 'Comparative analysis of perceptions towards IT security in online banking; Serbian vs. Croatian clients', *Business Management Dynamics*, 3(7), pp. 50–62.
- Malik, G. and Oberoi, M. K. (2017) 'Analyzing the impact of elevated service quality in online banking services on customer satisfaction', *Aweshkar Research Journal*, 22(1), pp. 107–119.
- Mandal, P.C. (2016) 'Dimensions affecting customer satisfaction in retail banking: A literature review', *International Journal of Applied Research*, 2(1), pp. 302-306. Available at: <https://pdfs.semanticscholar.org/5be9/786ed19ae49991bbcbaaaf297e0f9117884d.pdf> [Accessed 22 April 2019].
- Marakarkandy, B. and Yajnik, N. (2013) 'Re-examining and empirically validating the End User Computing Satisfaction models for satisfaction measurement in the internet banking context', *International Journal of Bank Marketing*, 31(6), pp. 440-455, Emerald Insight. doi: 10.1108/ijbm-06-2013-0051.
- Marinković, V., Senić, V., Kocić, M. and Šapić, S. (2013) 'Investigating the impact of SERVQUAL dimensions on customer satisfaction: The lessons learnt from Serbian travel agencies', *International Journal of Tourism Research*, 15(2), pp. 184–196. doi: 10.1002/jtr.884.
- MarketLine (2017) *MarketLine Industry Profile: Banks in Ireland*. London: MarketLine.
- Mbama, C. I. and Ezepue, P. O. (2018) 'Digital banking, customer experience and bank financial performance', *International Journal of Bank Marketing*, 36(2), pp. 230–255, Emerald Insight. doi: 10.1108/IJBM-11-2016-0181.
- McMahon, J. (2011) 'Restoring confidence in the Irish banking system', *The RMA Journal*, 94(1), pp. 30-36.
- McNeish, J. (2015) 'Consumer trust and distrust: retaining paper bills in online banking', *International Journal of Bank Marketing*, 33(1), pp. 5-22, Emerald Insight. doi: 10.1108/IJBM-08-2013-0088.

- Menih, H. (2013) 'Applying ethical principles in researching a vulnerable population: homeless women in Brisbane', *Current Issues in Criminal Justice*, 25(1), pp. 527-539.
- Mishra, A. A. (2010) 'Factors affecting customer satisfaction and their relative importance in the retail banking sector: An empirical study', *IUP Journal of Management Research*, 9(3), pp. 6–23.
- Munusamy, J., Chelliah, S. and Annamalah, S. (2014) 'Perceptual differences between internet banking adopters and non-adopters in the Malaysian retail banking sector', *International Journal of Management & Innovation*, 6(1), pp. 1–15.
- Mutesi, J. K., Mutingi, M. and Chakraborty, A. (2016) 'Service quality assessment of internet banking: Empirical evidences from Namibia', *e-Service Journal*, 10(1), pp. 42-65, Business Source Complete. doi: 10.2979/eservicej.10.1.03.
- Narteh, B. (2018) 'Service quality and customer satisfaction in Ghanaian retail banks: The moderating role of price', *International Journal of Bank Marketing*, 36(1), pp. 68–88, Emerald Insight. doi: 10.1108/IJBM-08-2016-0118.
- Nayak, B. K. (2010) 'Understanding the relevance of sample size calculation', *Indian Journal of Ophthalmology*, 58(6), pp. 469–470. doi: 10.4103/0301-4738.71673.
- O'Brien, A. (2018) *Ireland's banking sector: Facts & figures*. Available at: <https://www.ebf.eu/ireland/> [Accessed 21 April 2019].
- Ochuko, R. E., Cullen, A. J. and Neagu, D. (2009) 'Overview of factors for internet banking adoption', in *2009 International Conference on CyberWorlds*. Bradford, UK, 7-11 September 2009, pp. 163-170, IEEE Xplore. doi: 10.1109/CW.2009.51.
- Ofori, K. S., Boateng, H., Okoe, A. F. and Gvozdanovic, I. (2017) 'Examining customers' continuance intentions towards internet banking usage', *Marketing Intelligence & Planning*, 35(6), pp. 756-773, Emerald Insight. doi: 10.1108/MIP-11-2016-0214.
- O'Halloran, B. (2018) 'AIB and Bank of Ireland are the big beasts of banking again', *The Irish Times*, 3 August. Available at: <https://www.irishtimes.com/business/financial-services/aib-and-bank-of-ireland-are-the-big-beasts-of-banking-again-1.3584698> [Accessed 27 June 2019].
- O'Sullivan, K. P. V. and Kennedy, T. (2010) 'What caused the Irish banking crisis?' *Journal of Financial Regulation and Compliance*, 18(3), pp. 224-242, Emerald Insight. doi: 10.1108/13581981011060808.

- O'Sullivan, K. P. V. and Kinsella, S. (2011) 'An institutional architecture for meta-risk regulation in Irish banking: Lessons from Anglo Irish Bank's Minsky moment', *Journal of Banking Regulation*, 2(4), pp. 342-355, ProQuest. doi: 10.1057/jbr.2011.13.
- Patel, K. J. and Patel, H. J. (2018) 'Adoption of internet banking services in Gujarat: An extension of TAM with perceived security and social influence', *International Journal of Bank Marketing*, 36(1), pp. 147-169, Emerald Insight. doi: 10.1108/IJBM-08-2016-0104.
- Patnaik, B. C. M., Satpathy, I. and Samal, N. R. (2017) 'Retail banking challenges and latest trends in India', *International Journal of Economic Research*, 14(12), pp. 403-413. Available at: [https://www.researchgate.net/publication/321360090\\_Retail\\_banking\\_challenges\\_and\\_latest\\_trends\\_in\\_India](https://www.researchgate.net/publication/321360090_Retail_banking_challenges_and_latest_trends_in_India)- [Accessed 21 April 2019].
- Paul, H. K., Noufal, C. K. and Fasna, P. P. (2017) 'A study on satisfaction of banking customers towards online services', *CLEAR International Journal of Research in Commerce & Management*, 8(8), pp. 77-79.
- Philipos, L. B. and Singla, V. (2017) 'Factors affecting E-Banking adoption and its impact on customer satisfaction: A case study of Ethiopian banks', *International Journal of Marketing & Business Communication*, 6(1), pp. 16-28, ProQuest.
- Quinlan, C. (2011). *Business research methods*. Andover: South-Western Cengage Learning.
- Quinlan, C., Babin, B., Carr, J., Griffin, M. and Zikmund, W. (2019) *Business research methods*. Hampshire: Cengage Learning.
- Rahi, S. (2017) 'Research design and methods: A systematic review of research paradigms, sampling issues and instruments development', *International Journal of Economics & Management Sciences*, 6(2), pp. 1-5. ResearchGate. doi: 10.4172/2162-6359.1000403.
- Rahi, S., Ghani, M. A. and Alnaser, F. M. (2017) 'Predicting customer's intentions to use internet banking: the role of technology acceptance model (TAM) in e-banking', *Management Science Letters*, 7(11), pp. 513-524, Growing Science. doi: 10.5267/j.msl.2017.8.004.
- Raza, S. A., Jawaid, S. T. and Hassan, A. (2015) 'Internet banking and customer satisfaction in Pakistan', *Qualitative Research in Financial Markets*, 7(1), pp. 24-36, Emerald Insight. doi: 10.1108/QRFM-09-2013-0027.
- Reddan, F. (2019) 'It's official: women are more cautious (or more rational?) than men', *The Irish Times*, 20 June. Available at: <https://www.irishtimes.com/business/economy/it-s-official-women-are-more-cautious-or-more-rational-than-men-1.3931057> [Accessed 17 July 2019].

- Redelinghuis, A. and Rensleigh, C. (2010) 'Customer perceptions on internet banking information protection', *SA Journal of Information Management*, 12(1), pp. 1-6, DOAJ. doi: 10.4102/sajim.v12i1.444.
- Sadeghi, H., Rasoulia, A., Mirzaei, M. and Sharifipour, A. (2017) 'Electronic banking; a new strategy to create customers' loyalty to investment and its impact on economic initiatives', *International Journal of Management, Accounting & Economics*, 4(4), pp. 431–442.
- Sadeghi, T. and Hanzae, K. H., (2010). 'Customer satisfaction factors (CSFs) with online banking services in an Islamic country: IR Iran'. *Journal of Islamic Marketing*, 1(3), pp.249-267, Emerald Insight. doi: 10.1108/17590831011082428.
- Safeena, R., Kammani, A. and Date, H. (2014) 'Assessment of Internet Banking Adoption: An Empirical Analysis', *Arabian Journal for Science & Engineering*, 39(2), pp. 837–849, Academic Source Complete. doi: 10.1007/s13369-013-0707-x.
- Sajić, M., Bundalo, D., Bundalo, Z. and Pašalić, D. (2018) 'Digital technologies in transformation of classical retail bank into digital bank', *Annals of the Faculty of Engineering Hunedoara - International Journal of Engineering*, 16(3), pp. 77–81.
- Salimon, M. G., Yusoff, R. Z. B. and Mohd Mokhtar, S. S. (2017) 'The mediating role of hedonic motivation on the relationship between adoption of e-banking and its determinants', *International Journal of Bank Marketing*, 35(4), pp. 558-582.
- Sandada, M., Simbarashe, N. and Shamhuyenzva, R. (2016) 'Determining the impact of selected success factors on the adoption of E-Banking in the Zimbabwean banking industry', *EuroEconomica*, 2(35), pp. 102-118.
- Saunders, M., Lewis, P. and Thornhill, A. (2016) *Research methods for business students*. 7th edn. Harlow (Essex): Pearson.
- Scott, B. (2018) 'The cashless society is a con – and big finance is behind it', *The Guardian*, 19 July. Available at: <https://www.theguardian.com/commentisfree/2018/jul/19/cashless-society-con-big-finance-banks-closing-atms> [Accessed 19 July 2019].
- Sela, K. (2018) 'GDPR and ethical challenges to evaluating widening participation activities: A case study', *Widening Participation & Lifelong Learning*, 20(3), pp. 14–26. doi: 10.5456/WPLL.20.3.14.
- Seyal, A. H. and Rahim, M. M. (2011) 'Customer Satisfaction with Internet Banking in Brunei Darussalam: Evaluating the Role of Demographic Factors', *e-Service Journal*, 7(3), pp. 47–68, Business Source Complete. doi: 10.2979/eservicej.7.3.47.



- Shanka, M. S. (2012) 'Bank service quality, customer satisfaction and loyalty in Ethiopian banking sector', *Journal of Business Administration and Management Sciences Research*, 1(1), pp. 001-009.
- Shanmugam, M., Wang, Y. Y., Bugshan, H. and Hajli, N. (2015) 'Understanding customer perceptions of internet banking: The case of the UK', *Journal of Enterprise Information Management*, 28(5), pp. 622–636, Emerald Insight. doi: 10.1108/JEIM-08-2014-0081.
- Sharma, M.S. and Halvadia, N.B. (2015) 'Measuring service quality of internet banking portal in India', *Annals of Management Science*, 4(2), pp. 29-51, ProQuest. doi: 10.24048/ams4.no2.2015-29.
- Sharma, N. and Sharma, G. (2011) 'Customers' perspectives regarding e-banking: An empirical investigation', *IUP Journal of Management Research*, 10(4), pp. 31–43.
- Sharma, S. K. and Govindaluri, S. M. (2014) 'Internet banking adoption in India structural equation modeling approach', *Journal of Indian Business Research*, 6(2), pp. 155-169, Emerald Insight. doi: 10.1108/jibr-02-2013-0013.
- Shetty, M. A. and Sumalatha (2015) 'An empirical study of rural customer's satisfaction and consumer awareness from e-banking in India with special reference to Brahmavar', *CLEAR International Journal of Research in Commerce & Management*, 6(5), pp. 73–77.
- Shrimali, A. (2015) 'A study of use and impact of internet banking on customer satisfaction level (with special reference to Udaipur District)', *CLEAR International Journal of Research in Commerce & Management*, 6(8), pp. 92–94.
- Sikdar, P., Kumar, A. and Makkad, M. (2015) 'Online banking adoption: A factor validation and satisfaction causation study in the context of Indian banking customers', *International Journal of Bank Marketing*, 33(6), pp. 760-785, Emerald Insight. doi: 10.1108/IJBM-11-2014-0161.
- Singh, K. (2014) 'Impact of retail banking on customer satisfaction in Delhi', *International Journal of Research in Computer Application and Management*, 4(9), pp. 41-45. Available at: [https://www.researchgate.net/publication/318207307\\_Impact\\_of\\_Retail\\_Banking\\_on\\_Customer\\_Satisfaction\\_in\\_Delhi](https://www.researchgate.net/publication/318207307_Impact_of_Retail_Banking_on_Customer_Satisfaction_in_Delhi) [Accessed 23 April 2019].
- Svilar, A. and Zupančič, J. (2016) 'User Experience with Security Elements in Internet and Mobile Banking', *Organizacija*, 49(4), pp. 251–260. doi: 10.1515/orga-2016-0022.
- Tarhini, A., El-Masri, M., Ali, M. and Serrano, A. (2016) 'Extending the UTAUT model to understand the customers' acceptance and use of internet banking in Lebanon', *Information Technology & People*, 29(4), pp. 830-849, Emerald Insight. doi: 10.1108/ITP-02-2014-0034.

Taylor, C. (2018) 'Use of online banking more than doubled in Ireland in last 10 years', *The Irish Times*, 19 January. Available at: <https://www.irishtimes.com/business/technology/use-of-online-banking-more-than-doubled-in-ireland-in-last-10-years-1.3360346> [Accessed 23 April 2019].

The Irish Times (2019) 'The Top Financial Services Banking Companies'. *The Irish Times*. Available at: <http://www.top1000.ie/industries/financial-services-banking?sortorder=employees> [Accessed 05 August. 2019].

Tran, V-T., Porcher, R., Falissard, B. and Ravaud, P. (2016) 'Point of data saturation was assessed using resampling methods in a survey with open-ended questions', *Journal of clinical epidemiology*, 80, pp. 88-96. ScienceDirect. doi: 10.1016/j.jclinepi.2016.07.014.

UPC and Amarach Research (2014) *The second UPC report on Ireland's digital future: Accelerating economic recovery*. Available at: [https://iabireland.ie/wp-content/uploads/2014/06/UPC\\_2014\\_report.pdf](https://iabireland.ie/wp-content/uploads/2014/06/UPC_2014_report.pdf) [Accessed 21 April 2019].

White, D. (2018) 'A tale of two banks', *Independent.ie*, 24 July. Available at: <https://www.independent.ie/business/irish/a-tale-of-two-banks-36666393.html> [Accessed 27 Jun. 2019].

Yoon, C. (2010) 'Antecedents of customer satisfaction with online banking in China: The effects of experience', *Computers in Human Behavior*, 26(6), pp. 1296–1304, ScienceDirect. doi: 10.1016/j.chb.2010.04.001.

Yu, P. L., Balaji, M. S. and Khong, K. W. (2015) 'Building trust in internet banking: a trustworthiness perspective', *Industrial Management & Data Systems*, 115(2), pp. 235-252, Emerald Insight. doi: 10.1108/IMDS-09-2014-0262.

Yuen, Y. Y., Yeow, P. H. and Lim, N. (2015) 'Internet banking acceptance in the United States and Malaysia: A cross-cultural examination', *Marketing Intelligence & Planning*, 33(3), pp. 292-308, Emerald Insight. doi: 10.1108/MIP-08-2013-0126.

Zhu, Y-Q. and Chen, H-G. (2012) 'Service fairness and customer satisfaction in internet banking: Exploring the mediating effects of trust and customer value', *Internet Research*, 22(4), pp. 482-498, Emerald Insight. doi: 10.1108/10662241211251006.

## Appendix

<b>Questionnaire</b>							
<b>Section A</b>							
1. Gender:      Male <input type="checkbox"/> Female <input type="checkbox"/> Others <input type="checkbox"/>							
2. Age:              18-30 <input type="checkbox"/> 30- 40 <input type="checkbox"/> 40-50 <input type="checkbox"/> Above 50 <input type="checkbox"/>							
3. Do you use Online banking?      Yes <input type="checkbox"/> No <input type="checkbox"/>							
4. If Yes, which bank are you currently using for online banking services?  .....							
<b>Section B</b>							
5. You are requested to fill the following questionnaire about the online banking. The following questions are about your perspective of online banking attributes on customer satisfaction. Six-point scale having 6 options: <b>1 for strongly disagree, 2 for disagree, 3 for slightly disagree, 4 slightly agree 5 for agree and 6 for strongly agree.</b>							
Determinant Variables	1	2	3	4	5	6	
<b>Ease of Use</b>							
a. Information content and texts are easy to understand.							
b. The bank's site is easy to navigate and simple to use.							
<b>Reliability</b>							
a. Information provided is accurate.							
b. The webpages function properly.							
<b>Efficiency</b>							
a. Your account login and logout are fast.							
b. The bank's site performs the service right at the first time.							
<b>Convenience</b>							
a. The bank's site is accessible beyond regular business hours.							
<b>Security</b>							
a. You can rely on the bank for not misusing your information.							
b. The bank provides financial security and confidentiality.							

**Section C**

6. Are you satisfied with the online banking of your bank? Yes ☐ No ☐

7. Any suggestions from your side.

.....

.....

Thanks for your cooperation and sparing your precious time

Date and Sign: \_\_\_\_\_ Place: \_\_\_\_\_