

# **An Assessment of the Legal and Regulatory Framework on Fintech Inclusion for Visually Impaired Persons in Kenya**

BY

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Submitted in Partial Fulfilment of the Requirements for the Degree of Master of Laws (LLM) at  
Strathmore University



**Strathmore Law School**

**Nairobi, Kenya**

**June, 2025**

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## Declaration and Approval

### Declaration

I, **Nyaga Kelvin Kimani**, declare that this thesis which I submit for the degree of Master of Laws at Strathmore University Law School is my original work and has not previously been submitted for a degree at another university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself.

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### Approval

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## Abstract

Fintech has become a powerful catalyst for promoting financial inclusion worldwide, with Kenya recognized as a frontrunner in mobile money innovation. Despite this progress, blind individuals remain marginalized within the digital financial landscape, exposing a critical gap in accessibility. This study examines the legal and ethical dimensions of fintech accessibility for blind users in Kenya, evaluating the sufficiency of the country's legal framework in addressing their exclusion.

The research begins by exploring the foundational concepts of fintech accessibility and the systemic barriers encountered by visually impaired individuals when utilizing digital financial platforms. Through a detailed analysis of Kenya's legal and regulatory frameworks, particularly those concerning financial services and disability rights, the study assesses whether existing laws effectively safeguard accessibility or inadvertently perpetuate exclusion. It further investigates Kenya's ICT accessibility standards, contrasting them with globally established benchmarks such as the Web Content Accessibility Guidelines (WCAG) 2.1. This comparative analysis highlights the limitations of Kenya's voluntary standards and their implications for enforcing inclusive fintech solutions.

Employing a qualitative methodology, the study integrates doctrinal research and comparative legal analysis. Doctrinal research examines Kenya's legal texts, policies, and regulations, complemented by insights from secondary sources such as academic literature and industry reports. Comparative analysis draws lessons from international best practices in jurisdictions like Canada, and the UK, which have successfully implemented inclusive fintech regulations. The theoretical framework is grounded in capability theory and the empowerment theory, exploring the interplay between legal mandates and ethical considerations in shaping inclusive financial policies.

The findings reveal significant shortcomings in Kenya's legal framework, including outdated laws, fragmented regulations, and the absence of mandatory accessibility provisions within fintech legislation. Ethical concerns around non-discrimination, equality, and the right to financial autonomy compound these challenges, underscoring the urgency for reform.

In conclusion, the study presents actionable recommendations tailored to Kenya's fintech and legal landscape. These include introducing mandatory accessibility standards, revising existing statutes to embed accessibility requirements, and creating enforcement mechanisms to ensure compliance. Additionally, the research advocates for comprehensive legal frameworks that support fintech developers and financial institutions in fostering inclusive solutions. By addressing these gaps, Kenya can empower blind users, enhancing their financial independence and contributing to a more equitable digital financial ecosystem.

## Table of Contents

Declaration and Approval .....	I
Declaration .....	I
Approval .....	I
Abstract .....	I
List of Acronyms .....	I
List of Statutes .....	I
List of Cases .....	I
Acknowledgement .....	I
Dedication .....	I
<b>Chapter 1: Introduction</b> .....	<b>1</b>
1.1 Introduction .....	1
1.2 The General Overview .....	1
1.3 Statement of the Problem .....	4
1.4 Research Objectives .....	4
1.5 Research Questions .....	4
1.6 Hypothesis .....	5
1.7 Justification of the Study .....	5
1.8 Theoretical Framework .....	6
1.9 Literature Review .....	9
1.10 Research Methodology .....	17
1.11 Chapter Breakdown .....	17
<b>Chapter 2: The Intersection between Fintech Accessibility and Financial Inclusion</b> .....	<b>20</b>
2.1 Introduction .....	20
2.2 Contextualizing Financial Inclusion within the Fintech Landscape .....	20
2.3 Accessibility Features and Technological Advancements in Fintech .....	22
2.4 Hardware .....	27
2.5 Fundamental Principles of Fintech Accessibility for Visually Impaired Individuals .....	29
2.6 Conclusion .....	38

<b>Chapter 3: The Legal and Regulatory Framework Governing Fintech Accessibility in Kenya .....</b>	<b>40</b>
3.1 Introduction.....	40
3.2 Institutional Framework.....	40
3.3 The Legal Framework.....	42
3.3.1.1 The Constitution of Kenya.....	42
3.3.1.2: Convention on the Rights of Persons with Disabilities (CRPD) .....	43
3.3.1.3 The Persons with Disabilities Act.....	44
3.4 PART II Specific Fintech Activities Governed by the Legal and Regulatory Framework in Kenya .....	50
3.4.1 Assets and Wealth Management .....	50
3.4.2 Digital banking.....	51
3.4.3 Digital credit .....	52
3.4.4 Payment Service Providers (PSPs) & Mobile Money .....	53
3.4.5 Payments .....	54
3.4.6 InsurTech.....	55
3.4.7 Money Remittance Operations .....	55
3.4.8 Equity crowdfunding .....	56
3.5 Cross-cutting regulations applicable to FinTech providers .....	56
3.5.1 Information and communication technology.....	56
3.5.2: Data protection and privacy.....	57
3.5.3 Cybersecurity .....	58
3.5.4: Consumer protection.....	59
3.5.5 Anti-money laundering and KYC .....	60
3.6 Conclusion .....	61
<b>Chapter 4: Inherent Legal and Regulatory Shortcomings Affecting Financial Inclusion and Fintech Accessibility for Visually Impaired Persons .....</b>	<b>62</b>
4.1 Introduction.....	62
4.2 The Voluntary Nature of the Kenya Standard KS 2952-1-2:2022 .....	62
4.3 Limited Interoperability of Fintech Platforms .....	63

4.4 Regulatory Framework Gaps .....	63
4.5 Lack of Tailored Regulatory Framework.....	63
4.6 Resource Constraints .....	64
4.7 Lack of Coordination and Regulatory Overlap Among Regulators.....	64
4.8 Fragmentation in the Legal Framework.....	65
4.9 Lack of Accessibility Standards in Fintech Regulation .....	65
4.10 Policy Trade-Offs.....	66
4.11 Cross-Border Regulatory Complexities .....	66
4.12 Spread of Misinformation.....	67
4.13 Biasness and Discriminatory Outcomes .....	67
4.14 Lack of Transparency and Accountability .....	68
4.15 Concerns of Data Privacy and Security .....	68
4.16 Concerns of Cybercrime and Money Laundering.....	68
4.17 Ethical Barriers: Accessibility and Accountability in Fintech .....	68
4.18 Consumer Protection and Ethical Concerns in Fintech Accessibility.....	69
4.19 Infrastructure Deficits and Accessibility Hurdles .....	69
4.20 Conclusion .....	70
<b>Chapter 5: Best Global Practices in the Legal and Regulation of Fintech Accessibility by Blind Users.....</b>	<b>71</b>
5.1 Introduction:.....	71
5.2 United Kingdom.....	72
5.2.1 European Union Laws Influencing Accessibility of Fintech Services in the UK.....	72
5.2.1.1 EU Web Accessibility Directive or Web and Mobile Accessibility Directive (EN 301 549).....	73
5.2.1.2 European Accessibility Act.....	73
5.3 Equality Act (2010).....	74
5.4 Rules for accessibility of websites and mobile applications of public authorities (No. 2) 2018 .....	75
5.5: Implementation of the POUR Principles in the United Kingdom .....	77
5.6 Ethical Dimensions of Digital Inclusion in the United Kingdom.....	78

5.7 The Equality Act 2010 and Ethical Obligations.....	79
5.8 The Role of the Financial Conduct Authority (FCA) in Ensuring Ethical Compliance .....	79
5.9 Ethical Considerations in Algorithmic Design and Artificial Intelligence (AI) .....	80
5.10 Web Accessibility Standards and Universal Design .....	81
5.11 Ethical Implications for Blind Users.....	82
5.12 Conclusion .....	82
5.13 Critique of the UK's Accessibility Framework.....	83
5.14 Canada.....	83
5.14.1 Implementation of the POUR Principles in Canada .....	86
5.14.2 Ethical Dimensions of Digital Inclusion in Canada.....	87
5.16 Conclusion .....	93
<b>Chapter 6: Conclusion and Recommendation .....</b>	<b>95</b>
6.1 Introduction.....	95
6.2 Summary of Findings.....	96
6.3 Implications of the Findings .....	96
6.4 Limitations .....	97
6.5 Recommendation for Statutory and Policy Framework.....	97
6.5.1 Recommendation 1: Making Kenya Standard KS 2952-1-2:2022 Legally Binding ...	98
6.5.2 Recommendation 2: Including Testing of Accessibility Features in Regulatory Sandbox.....	99
6.5.3 Recommendation 3: Amending Legislation to Mandate Accessibility Requirements .....	100
6.5.4 Recommendation 4: Government Intervention to Support Accessibility Implementation .....	101
6.5.5 Recommendation 5: Establishment of Regulatory Body or Authority .....	102
6.5.6 Recommendation 6: Integration of Technological Solutions for Fintech Accessibility .....	103
6.6 Recommendations for Future Research .....	104
6.7 Conclusion .....	104
Bibliography .....	106

Appendices..... 115  
Appendix A: Similarity Report..... 115  
Appendix B: Ethical Release Letter..... 117



## List of Acronyms

AI - Artificial Intelligence

AML - Anti-Money Laundering

API - Application Programming Interface

ATM - Automated Teller Machine

CMCA - Computer Misuse and Cybercrimes Act

CSR - Corporate Social Responsibility

DPA - Data Protection Act

EU - European Union

Fintech - Financial Technology

GDP - Gross Domestic Product

GDPR - General Data Protection Regulation

ICT - Information and Communication Technology

KICA - Kenya Information and Communications Act

KYB - Know Your Business

KYC - Know Your Customer

MFS - Mobile Financial Services

NPSR - National Payment System Regulation

OCR - Optical Character Recognition

POCAMLA - Proceeds of Crime and Anti-Money Laundering Act

POS - Point of Sale

POUR - Perceivable, Operable, Understandable, Robust (Accessibility Principles)

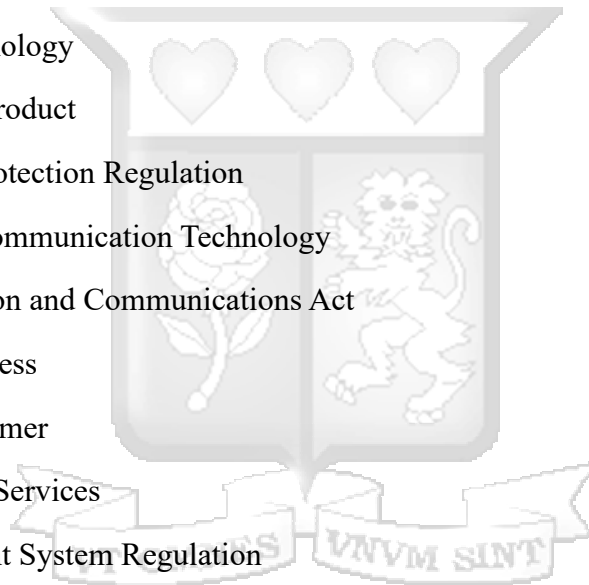
PSPs - Payment Service Providers

PWDs - Persons with Disabilities

Regtech - Regulatory Technology

ROI - Return on Investment

RTT - Real-Time Text



TTS - Text-to-Speech

UN - United Nations

UNCRPD - United Nations Convention on the Rights of Persons with Disabilities

UK - United Kingdom

UI - User Interface

UX - User Experience

WCAG - Web Content Accessibility Guidelines



## List of Statutes

### KENYAN

Capital Markets Act - Chapter 485A

CBK Prudential Guidelines 2013

CMCA Regulations, 2024

Guideline on Cybersecurity for Payment Service Providers (PSP Guideline) July 2019

Kenya Banking Sector Charter in 2019

Kenya Information and Communications Act (KICA), 1998

NPS Regulation 2014 (National Payment System Regulation 2014)

NPSR 2014 (National Payment System Regulation 2014)

Persons with Disabilities Act No. 14 of 2003

The Banking Act, Cap 488

The Capital Markets (Investment Based Crowdfunding) Regulations, 2021

The CBK (Digital Credit Providers) Regulations, 2022

The CBK Prudential Guideline on Consumer Protection

The Central Bank Act Cap. 491

The Competition Act, 2010

The Computer Misuse and Cybercrimes Act 2018

The Constitution of Kenya 2010

The Consumer Protection Act, 2012

The Data Protection Act, 2019

The Finance Act 2023

The Insurance Act, 2006

The Insurance 'Regulatory Sandbox' Guidance Note, 2019

The Money Remittance Regulations, 2013

The National Payment System Act, 2011 No. 39 of 2011

The National Payments Systems Regulations (2014)

The Prevention of Terrorism Act, 2012

The Proceeds of Crime and Anti-Money Laundering Act, 2009

## **UNITED KINGDOM**

Disability and Discrimination Act 1992

EU Web Accessibility Directive

European Accessibility Act 2019

Equality Act

## **CANADIAN**

Accessible Canada Act

Accessibility for Ontarians with Disabilities Act

National Disability Strategy

Nova Scotia Accessibility Act

## **UNITED STATES OF AMERICA**

Americans with Disabilities Act

Rehabilitation Act

## **INTERNATIONAL STATUTES**

United Nations Convention on the Rights of Persons with Disabilities (UNCRPD)



## List of Cases

*Dr Yusuf Osman v Department for Work and Pensions (DWP)* [2023] EWHC 1867 (Admin)- (United Kingdom)

*Gil v Winn-Dixie Stores, Inc* No 17-13467 (11th Cir 2021). (United States of America)

*Jodhan v Canada (Attorney General)* [2012] 431 NR 144 (FCA); 2010 FC 1197. (Canada)

*Kenya Society for the Mentally Handicapped (KSMH) v Attorney General & 5 others; United Disabled Persons of Kenya & another (Interested Parties)* (Petition 155A of 2011) [2012] KEHC 5406 (KLR) (Constitutional and Human Rights) (18 December 2012) (Ruling) (Kenya)

*Maguire v Sydney Organising Committee for the Olympic Games* HREOC Decision H99/115 (1999)(Australia)

*National Federation of the Blind (NFB) v Target Corporation* 452 F Supp 2d 946 (ND Cal 2006). (United States of America)

*Robles v Domino's Pizza, LLC* 913 F 3d 898 (9th Cir 2019). (United States of America)

*Stephen Campbell v Western Health and Social Care Trust & HSC Business Services Organisation* [2023] NIIT 29 (Equality Commission for Northern Ireland).

*Wilson Macharia v Safaricom Plc* [2021] Eklr (Kenya)



## Acknowledgement

I am deeply grateful to God for granting me good health and the strength to embark on this academic journey. His unwavering guidance and blessings have been the foundation of my perseverance.

I extend heartfelt gratitude to my parents for their unwavering support throughout this endeavor. Their prayers, financial assistance, and moral encouragement have been invaluable, sustaining me through the challenges and triumphs of this journey.

I am indebted to my supervisor, Dr. Constance Gikonyo, for her exceptional guidance and unwavering commitment to ensuring the success of this significant milestone in my life. Her dedication extended beyond the confines of regular working hours, as she graciously offered invaluable insights and corrections even during holidays and weekends. Her mentorship has been instrumental in shaping the quality and direction of this thesis.

I would like to express my sincere appreciation to Faith Aketch Muga for her dedication and meticulous proofreading of this paper. Her commitment to excellence and attention to detail significantly contributed to the refinement of this work. Without her support, this achievement would not have been possible.

I also extend my gratitude to Hansal Shah for his unwavering presence and support throughout my LL.M. journey. His encouragement and friendship have been invaluable, providing me with the assurance and confidence needed to navigate through the challenges of academic life.

Lastly, I extend my appreciation to all those who have contributed in various ways, directly or indirectly, to the completion of this thesis. Your support and encouragement have been invaluable, and I am truly grateful for your presence in this journey.

Thank you.

## Dedication

To my beloved daughter, Gianna Wanjiru Kimani,

All the hard work, time, and devotion poured into this paper are a testament to the love I hold for you. Your presence in my life inspires me to strive for excellence and to make a difference in the world.

I also dedicate this thesis to all visually impaired persons. May the recommendations presented herein pave the way for a more inclusive and accessible future, where everyone can thrive and benefit equally.

With love and dedication,

Nyaga Kelvin Kimani



## Chapter 1: Introduction

### 1.1 Introduction

This chapter introduces the research paper by defining the terms financial inclusion and fintech. It goes ahead and gives a brief background on financial inclusion and fintech in Kenya.

This is followed by a statement of the problem, objectives,

research questions, hypotheses, justification of the study, and the existing literature upon which this study was built.

The chapter proceeds to discuss the theoretical framework and the methodological approach applied to collect and analyse data and provides a breakdown of chapters for the study.

### 1.2 The General Overview

Financial inclusion means that individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way, particularly those who are traditionally underserved or excluded from the mainstream financial system<sup>1</sup> While Fintech, short for financial technology, refers to the innovative application of technology in the financial sector to create more efficient, convenient, and accessible financial services.<sup>2</sup>

In recent years, financial technology, or fintech, has emerged as a transformative force, revolutionizing the way financial services are accessed and utilized.<sup>3</sup> Kenya has long been considered a leading fintech hub in Africa, with a rapidly growing ecosystem fuelled by various factors.<sup>4</sup> Kenya has been at the forefront of financial technology innovation over the past decade, from a large unbanked population to high mobile phone penetration and supportive government policies. Fintech's rise in Kenya can be traced back to 2007 when Safaricom, the country's leading mobile network operator, launched M-pesa.<sup>5</sup> This mobile money service allows users to transfer money, pay bills, and access other financial services through their mobile phones without the need for a bank account. Over the years, fintech in Kenya has continued to grow with a range of innovations emerging to cater to the country's diverse financial needs.<sup>6</sup>

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<sup>1</sup> 'Financial Inclusion Overview' <<https://www.worldbank.org/en/topic/financialinclusion/overview#3>> accessed 18 August 2023.

<sup>2</sup> 'Fintech and the Future of Finance' <<https://www.worldbank.org/en/publication/fintech-and-the-future-of-finance>> accessed 18 August 2023.

<sup>3</sup> Muuo, Sheru W., Bhavisha Virendrakumar, George Okello, Moses Chege, Vibian Angwenyi, Kenneth Gichohi, Hillary Kibet et al. "Financial inclusion for persons with disabilities: Experiences of providers and users of financial products and services in Kenya." *PloS one* 20, no. 4 (2025): e0321493

<sup>4</sup> Abdul Latif Alhassan and Sandisiwe Yengeni, 'Financial Technology and Financial Inclusion of Small And' 1.

<sup>5</sup> *ibid.*

<sup>6</sup> *ibid.*

Fintech innovations have opened new avenues for financial inclusion, allowing individuals previously excluded from traditional banking systems to participate in economic activities and gain access to various financial services.<sup>7</sup> Access to financial services, including banking, insurance and investing, help people take advantage of business opportunities, invest in education, insure against risks, and save for old age.<sup>8</sup> Financial inclusion is an enabler for inclusive growth and poverty reduction, and access to financial assets is recognised as a key driver of economic empowerment.<sup>9</sup> Accessible and inclusive financial services and products create new opportunities for financial institutions to profitably serve an expanded and diversified range of customers.

However, despite the progress made in expanding financial services globally, persons with disabilities and who makes a significant portion of the population remain excluded from the formal financial system.<sup>10</sup> According to the latest available data, 1.3 billion people, or 16% of the world's population, experience some form of disability.<sup>11</sup> They form the largest minority group in the world. Individuals can experience different types of disability, including visual, hearing, speech, mobility, cognitive, and psychosocial.<sup>12</sup> This research shall focus on persons with visual impairment (blind).

Blind users encounter numerous challenges in accessing and utilizing financial services, including traditional, online, and mobile services, primarily due to the lack of accessibility in traditional banking infrastructure.<sup>13</sup> These Barriers include inaccessible design and lack of reasonable accommodation; lack of awareness by service providers of the market potential; stigma or prejudice; physical and digital barriers including literacy, remote locations, and security concerns.<sup>14</sup> Accelerated digitalization of financial services (fintech) that deliver the benefits of inclusion to various populations has the potential to address these barriers and significantly enhance financial inclusion for blind users.

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<sup>7</sup> Julia Arnold and Sarah Gammage, 'Gender and Financial Inclusion: The Critical Role for Holistic Programming' (2019) 29 *Development in Practice* 965 <<https://www.tandfonline.com/doi/full/10.1080/09614524.2019.1651251>> accessed 18 August 2023.

<sup>8</sup> Abdul Latif Alhassan and Sandisiwe Yengeni, 'Financial Technology and Financial Inclusion of Small And' 1.

<sup>9</sup> 'Bridging The and Disability Gap, 'An Opportunity to Make a Positive Impact Truly Inclusive Financial Services Must Cater to the Special Needs of Persons with Disabilities'.

<sup>10</sup> Muuo, Sheru W., Bhavisha Virendrakumar, George Okello, Moses Chege, Vibian Angwenyi, Kenneth Gichohi, Hillary Kibet et al. "Financial inclusion for persons with disabilities: Experiences of providers and users of financial products and services in Kenya." *PloS one* 20, no. 4 (2025): e0321493

<sup>11</sup> 'Disability' <<https://www.who.int/news-room/fact-sheets/detail/disability-and-health>> accessed 18 August 2023.

<sup>12</sup> 'Technology Can Accelerate Financial Inclusion for Persons with Disabilities, Finds Mastercard Study | Mastercard Newsroom' <<https://www.mastercard.com/news/eemea/en/newsroom/press-releases/press-releases/en/2022/may/technology-can-accelerate-financial-inclusion-for-persons-with-disabilities-finds-mastercard-study/>> accessed 18 August 2023.

<sup>13</sup> 'Inclusive Banking: Emerging Practices to Advance the Economic Inclusion of Persons with Disabilities' <<https://www.ifc.org/en/insights-reports/2022/practices-to-advance-the-economic-inclusion-of-persons-with-disabilities>> accessed 18 August 2023.

<sup>14</sup> 'Financial Inclusion Overview' <<https://www.worldbank.org/en/topic/financialinclusion/overview#3>> accessed 18 August 2023.

Traditional financial institutions have historically struggled to cater to the needs of blind users, as their offerings primarily rely on visual interfaces.<sup>15</sup> This exclusionary approach prevents blind individuals from fully participating in the digital economy, inhibiting their ability to manage finances, make transactions, and engage in financial decision-making.<sup>16</sup> Access to digital financial services like banking, credit, and insurance allows blind persons to save, invest, and protect their assets. This empowerment can lead to increased economic independence and reduced dependence on others for financial support.

The legal framework plays a crucial role in facilitating financial inclusion by creating an enabling environment that allows individuals and businesses, particularly those underserved and excluded from traditional financial services, to access and participate in the formal financial system.<sup>17</sup> This can be through establishing rules and regulations on consumer protection, to safeguard the rights of blind consumers, by ensuring that financial products and services are transparent, fair, and safe. Also, establishing accessibility regulations that mandate financial institutions and fintech companies to ensure their digital platforms are inclusive and accessible to all users, including individuals with disabilities, establish inclusive design guidelines for fintech companies.<sup>18</sup>

The legal framework also establishes regulations and licensing requirements for financial institutions, including banks, credit unions, microfinance institutions, and payment service providers. By ensuring that these institutions operate under clear guidelines and standards, the framework helps to build trust and confidence in the financial sector, encouraging more people to use formal financial services.<sup>19</sup>

Further, the legal framework plays a significant role in regulating the ethical aspect of these services by prohibiting discrimination, establishing guidelines for electronic transactions, privacy, data protection, money laundering and cybersecurity.<sup>20</sup>

This thesis aims to provide a comprehensive literature review on fintech accessibility for blind users and explore the potential for enhancing financial inclusion. By analysing existing research, best practices, and innovative solutions, this study will shed light on the current state of fintech accessibility, identify the key challenges faced by blind users, and propose strategies and recommendations to overcome these obstacles. By examining the existing literature, this thesis

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<sup>15</sup> Brian Wentz, Dung Pham Pham and Kailee Tressler, 'Exploring the Accessibility of Banking and Finance Systems for Blind Users' (2017) 22 First Monday.

<sup>16</sup> *ibid.*

<sup>17</sup> Bridging The and Disability Gap, 'An Opportunity to Make a Positive Impact Truly Inclusive Financial Services Must Cater to the Special Needs of Persons with Disabilities'.

<sup>18</sup> 'Exploring the Accessibility of Banking and Finance Systems for Blind Users | Request PDF' <[https://www.researchgate.net/publication/314269988\\_Exploring\\_the\\_accessibility\\_of\\_banking\\_and\\_finance\\_systems\\_for\\_blind\\_users](https://www.researchgate.net/publication/314269988_Exploring_the_accessibility_of_banking_and_finance_systems_for_blind_users)> accessed 18 August 2023.

<sup>19</sup> Brian Wentz, Dung Pham Pham and Kailee Tressler, 'Exploring the Accessibility of Banking and Finance Systems for Blind Users' (2017) 22 First Monday.

<sup>20</sup> *ibid.*

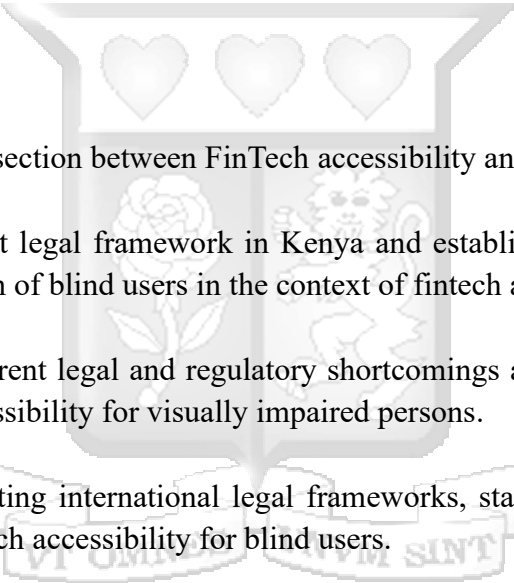
seeks to fill the gaps in knowledge and understanding regarding the accessibility of fintech for the visually impaired, shedding light on the opportunities and barriers that exist in this domain.

### **1.3 Statement of the Problem**

Kenya's fintech sector has grown significantly, promising greater financial inclusion. However, visually impaired individuals remain marginalized due to inaccessible digital financial platforms. Despite legal frameworks supporting disability rights, there is no clear, enforceable regulation mandating fintech accessibility for visually impaired users. This regulatory gap hinders their ability to engage in financial transactions and fully participate in the digital economy. Accordingly, this study critically examines the legal and regulatory shortcomings affecting fintech accessibility for visually impaired persons in Kenya and explores necessary reforms to enhance inclusion.

### **1.4 Research Objectives**

This study will:

- 
- i) Explore the intersection between FinTech accessibility and financial inclusion.
  - ii) Assess the current legal framework in Kenya and establish whether it addresses the financial inclusion of blind users in the context of fintech accessibility.
  - iii) Examine the inherent legal and regulatory shortcomings affecting financial inclusion and FinTech accessibility for visually impaired persons.
  - iv) Examine the existing international legal frameworks, standards, guidelines and best practices for fintech accessibility for blind users.
  - v) Identify the potential legal reforms or policy interventions that can be implemented to enhance the financial inclusion of blind users in the fintech ecosystem of Kenya.

### **1.5 Research Questions**

To achieve its objectives, the study will respond to the following questions:

#### **1.5.1 General Research Question**

The overall research question is what are the legal and regulatory challenges surrounding Fintech accessibility for blind users in Kenya.

#### **1.5.2 The Specific Research Questions**

- i. What constitutes FinTech accessibility, and how does its design facilitate financial inclusion for visually impaired individuals?

- ii. How does the current legal framework in Kenya address the financial inclusion of blind users in the context of fintech accessibility?
- iii. What inherent legal and regulatory weaknesses limit financial inclusion and FinTech accessibility for visually impaired persons?
- iv. What are the existing international legal frameworks, standards and guidelines or best practices for fintech accessibility for blind users?
- v. What are the potential legal reforms or policy interventions that can be implemented to enhance the financial inclusion of blind users in the fintech ecosystem of Kenya?

## **1.6 Hypothesis**

The legal and regulatory frameworks surrounding fintech accessibility for blind users in Kenya do not enhance financial inclusion.

## **1.7 Justification of the Study**

Kenya, like many other developing countries, has embraced fintech to enhance financial inclusion and bridge the gap between the banked and unbanked populations. With the rapid advancements in financial technology (fintech) and the increasing reliance on digital platforms for financial services, it is essential to examine how these developments affect blind users' access to financial services. By exploring this topic, the thesis contributes to the ongoing discourse on inclusive fintech practices, particularly in the context of Kenya, where digital financial services have gained significant traction.

The blind community faces unique challenges in accessing financial services due to the predominantly visual nature of these services. Consequently, the legal and ethical implications of fintech accessibility for blind users in Kenya require thorough examination to ensure that the benefits of fintech innovations are inclusive and accessible to all.

This LLM thesis aims to investigate the legal and ethical dimensions surrounding fintech accessibility for blind users in Kenya. By exploring the current landscape of fintech solutions in Kenya and the challenges faced by blind users in accessing these services, this study will shed light on the existing gaps in financial inclusion. It will explore relevant laws, regulations, and policies in Kenya that govern financial services and the rights of disabled individuals, identify gaps and propose potential legal reforms to enhance accessibility and protect the rights of blind users.

This thesis will also delve into ethical dimensions, such as data privacy, informed consent, and fair treatment as well as ethical questions regarding equality, discrimination, and the right to financial autonomy. It will explore the ethical implications of using emerging technologies like artificial intelligence and biometrics in fintech applications for blind users. Examining these ethical aspects

will help in designing guidelines and best practices for fintech developers and policymakers and provide insights into how fintech companies, financial institutions, and policymakers can navigate these challenges.

The findings of this thesis will contribute to the existing body of knowledge by highlighting the legal and ethical implications of fintech accessibility for blind users. It will provide policy recommendations and practical solutions for enhancing fintech accessibility and inclusivity in Kenya. It will provide actionable insights for policymakers, regulators, financial institutions, and technology developers. These recommendations will guide the formulation of inclusive policies, the design of accessible fintech solutions, and the establishment of effective collaboration between stakeholders.

Ultimately, the research will strive to promote financial inclusion as a fundamental human right and advance the understanding of the role of law and ethics in shaping fintech accessibility. Moreover, it will highlight potential gaps and areas for further exploration, thereby fostering a continuous cycle of research and development in this dynamic field.

## **1.8 Theoretical Framework**

This study adopts three interconnected theories—The Capability Theory, the Social Model of Disability, and the Social Empowerment Theory—that will collectively guide its objectives and findings. These theories are crucial not only for understanding the challenges faced by blind users in accessing Fintech services but also for proposing actionable solutions. Together, these theoretical frameworks are underpinned by the broader principles of the Public Good Theory, emphasizing the societal and ethical responsibility to foster inclusivity and equal opportunity for all.

### **1.8.1 The Capability theory**

The Capability Theory provides a critical framework for understanding human freedom and well-being, focusing on what individuals are genuinely able to achieve and the kind of life they are effectively capable of leading.<sup>21</sup> Though its philosophical underpinnings can be traced to figures like Aristotle, Adam Smith, and Karl Marx, the framework was notably advanced by Amartya Sen, an economist-philosopher, and Martha Nussbaum, a philosopher, along with other scholars across diverse disciplines who have significantly developed its principles.<sup>22</sup>

At its core, the Capability Theory rejects the reductive views of traditional economic models, such as utilitarianism and resourcism, which prioritize material resources or subjective happiness without addressing individuals' actual abilities to transform resources into meaningful

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<sup>21</sup> *ibid.*

<sup>22</sup> Morten Fibieger Byskov, 'Democracy, Philosophy, and the Selection of Capabilities' (2017) 18 *Journal of Human Development and Capabilities* 1.

achievements.<sup>23</sup> Sen critiques the limited informational basis of these conventional approaches by introducing the concept of "capabilities"—the real freedoms people possess to achieve their potential doings (activities they can undertake) and beings (the kind of individuals they can become).<sup>24</sup> Unlike formal freedoms that denote mere permission or possibility, capabilities emphasize substantive opportunities, where individuals have both the means and the practical conditions required to achieve desired goals.<sup>25</sup>

This shift from focusing solely on resources to considering whether individuals can convert resources into meaningful outcomes addresses the varied circumstances that may impede individuals' ability to utilize their assets effectively. Two people with identical resources may experience vastly different capabilities due to differences in their physical, social, or environmental contexts.<sup>26</sup> This shift in focus is justified because resources and goods alone do not ensure that people are able to convert them into actual doings and beings.

Sen's seminal work, particularly his "Equality of What?" essay (1979), provides a powerful illustration of this argument through the lens of disability.<sup>27</sup> He demonstrates how a disabled person, despite possessing the same resources as an able-bodied counterpart, encounters compounded disadvantages.<sup>28</sup> Firstly, their capabilities are inherently restricted; for instance, a wheelchair user may only access environments designed with accessibility in mind.<sup>29</sup> Secondly, the disabled individual incurs additional expenses to mitigate barriers imposed by their disability, such as the cost of mobility aids. These expenses reduce the resources available for other pursuits, thereby creating unequal opportunities for well-being.<sup>30</sup> Sen's analysis highlights the insufficiency of resource-based evaluations and calls for assessments that account for what individuals are able to achieve with their resources.

The Capability Theory is thus widely recognized as a conceptual framework for normative inquiries into human development and social justice. Its applications span three key areas: (1) the assessment of individual well-being, focusing on people's real opportunities to flourish; (2) the evaluation of social arrangements, analyzing whether societal structures promote equitable

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<sup>23</sup> 'Sen's Capability Approach | Internet Encyclopedia of Philosophy' <<https://iep.utm.edu/sen-cap/>> accessed 18 August 2023.

<sup>24</sup> 'Sen's Capability Approach | Internet Encyclopedia of Philosophy' <<https://iep.utm.edu/sen-cap/>> accessed 18 August 2023.

<sup>25</sup> '(PDF) Amartya Sen's Capability Approach as Theoretical Foundation of Human Development Published in Journal of Sociology and Development' <[https://www.researchgate.net/publication/324125531\\_Amartya\\_Sen%27s\\_capability\\_approach\\_as\\_theoretical\\_foundation\\_of\\_human\\_development\\_published\\_in\\_Journal\\_of\\_Sociology\\_and\\_Development](https://www.researchgate.net/publication/324125531_Amartya_Sen%27s_capability_approach_as_theoretical_foundation_of_human_development_published_in_Journal_of_Sociology_and_Development)> accessed 18 August 2023.

<sup>26</sup> Morten Fibieger Byskov, 'Democracy, Philosophy, and the Selection of Capabilities' (2017) 18 Journal of Human Development and Capabilities 1.

<sup>27</sup> Alex Callinicos, 'Equality of What?' [2004] Contemporary Political Theory: A Reader 36.

<sup>28</sup> *ibid.*

<sup>29</sup> *ibid.*

<sup>30</sup> *ibid.*

capabilities; and (3) the design of policies and reforms that advance social change.<sup>31</sup> Across these domains, the theory prioritizes individuals' beings and doings—such as their ability to access financial services, achieve financial independence, and utilize inclusive platforms like Fintech.

This perspective stands in stark contrast to other well-being models, which often rely on subjective measures (e.g., happiness) or material means (e.g., income levels) without addressing whether individuals can leverage those resources effectively.<sup>32</sup>

This theory is crucial for understanding financial inclusion, as it moves beyond the mere availability of financial resources to consider whether individuals, particularly those with disabilities, can effectively use those resources to achieve their personal goals. In the context of this research, the Capability Theory is particularly relevant because it helps to assess whether blind users in Kenya have the real freedom to access and participate in the fintech ecosystem. The study will employ this theory to evaluate how legal frameworks and accessibility measures impact the ability of visually impaired individuals to achieve financial independence and inclusion. By examining fintech as a resource and accessibility as a capability, this theory will allow the research to evaluate the barriers that prevent blind users from fully utilizing fintech services. Moreover, the theory provides a normative framework for suggesting legal reforms that enhance the real freedoms of blind users, ensuring that they can use fintech platforms to their full potential, thus advancing their social and economic well-being.

### **1.8.2 Social Empowerment theory**

Rooted in Marxist sociological traditions and later expanded by Julian Rappaport in American community psychology (1981),<sup>33</sup> social empowerment theory examines the processes through which individuals and groups gain the autonomy, agency, and resources needed to drive social transformation.<sup>34</sup> It emphasizes dismantling systemic inequities that perpetuate marginalization while fostering self-determination and collective identity.<sup>35</sup> At the individual level, social empowerment equips individuals with the inner resilience and external tools to exercise personal agency over life choices—whether deciding on fundamental aspects such as diet, residence, or other determinants of one's environment and lifestyle.<sup>36</sup>

Conversely, at the collective level, social empowerment is enacted through organizations and institutions that provide marginalized groups access to critical resources such as education, economic opportunities, physical and mental well-being, social belonging, self-esteem, and

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<sup>31</sup> *ibid.*

<sup>32</sup> *ibid.*

<sup>33</sup> Tina Maschi, Sandra Turner and Adriana Kaye, 'Empowerment Theory', *Theoretical Perspectives for Direct Social Work Practice: A Generalist-Eclectic Approach: Fourth Edition* (Springer Publishing Company 2021).

<sup>34</sup> *ibid.*

<sup>35</sup> 'Empchpt.Pdf'.

<sup>36</sup> Tina Maschi, Sandra Turner and Adriana Kaye, 'Empowerment Theory', *Theoretical Perspectives for Direct Social Work Practice: A Generalist-Eclectic Approach: Fourth Edition* (Springer Publishing Company 2021).

material assets.<sup>37</sup> The overarching aim of social empowerment initiatives is to enable individuals and communities to establish a cohesive identity, strengthen their sense of belonging, and develop sustainable well-being. Equally vital is the dismantling of systemic structures that perpetuate resource deprivation and reinforce cycles of marginalization.

Applied to this study, the theory underscores how fintech accessibility—or the lack thereof—impacts the empowerment of blind users in Kenya. Financial inclusion through accessible fintech provides individuals with autonomy in managing financial decisions, while collective empowerment arises from legal reforms that secure equitable access to digital financial services. This theoretical lens frames fintech as a transformative tool that can dismantle systemic barriers, enabling blind users to thrive both individually and collectively in a more inclusive financial ecosystem.

## **1.9 Literature Review**

### **1.9.1 Introduction**

The field of fintech, or financial technology, has seen significant growth in recent years. Several key literature reviews have been conducted to explore various aspects of fintech, ranging from its impact on financial services to technological advancements and regulatory challenges. This literature review aims to provide a comprehensive analysis of the existing research and literature on the topic of fintech and its accessibility for blind users.

### **1.9.2 Fintech and Accessibility for the Visually impaired**

The accessibility of FinTech services for individuals with visual impairments remains an underexplored area in academic literature, despite its growing importance in discussions of financial inclusion. Nevertheless, studies on online banking services, a critical subset of FinTech, provide essential insights into the challenges faced by this faction. Redhwan Nour, in his study on the accessibility and usability of Saudi online FinTech services for individuals with disabilities,<sup>38</sup> identifies FinTech as a revolutionary force transforming the financial sector through innovations such as crowdfunding, peer-to-peer lending, and alternative underwriting platforms.<sup>39</sup> The study underscores the significance of accessible online FinTech services, which hold the potential to empower individuals with disabilities by facilitating equitable access to financial resources necessary for meeting basic needs. However, due to the inherently visual design of most web interfaces, blind individuals face considerable challenges, including usability barriers and discriminatory practices embedded within digital platforms.<sup>40</sup> Nour's analysis revealed widespread

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<sup>37</sup> *ibid.*

<sup>38</sup> Redhwan Nour, 'An Assessment of Accessibility and Usability of Saudi Online FinTech Services for People with Disabilities' (2022) 2022 Computational and Mathematical Methods in Medicine.

<sup>39</sup> *ibid.*

<sup>40</sup> *ibid.*

accessibility and usability deficits, which not only hinder equitable participation but also result in a poor overall user experience for individuals with disabilities.<sup>41</sup>

In his study *Keeping with the Global Trends: An Evaluation of Accessibility and Usability of Nigerian Banks*, Ishaq O. Oyefolahan conducted an assessment of ten Nigerian banking websites, revealing prevalent accessibility deficiencies.<sup>42</sup> Among the most notable issues was the widespread failure to provide alternative text for visual content, which is essential for ensuring inclusivity for users with visual impairments. Additionally, insufficient optimization of website performance resulted in sluggish user experiences, further compounding accessibility challenges.<sup>43</sup> Although 70% of the websites demonstrated compatibility with mobile view, all examined sites were found to contain broken links, undermining their usability and highlighting critical gaps in adherence to accessibility standards.<sup>44</sup>

Similarly, Yakup Akgül, in his study *Banking Websites in Turkey: An Accessibility, Usability and Security Evaluation*, analyzed 32 Turkish banking websites, spanning state-owned, privately-owned, and foreign institutions.<sup>45</sup> His findings revealed extensive accessibility deficiencies, with the failure to provide text equivalents for non-text elements emerging as the most prevalent issue—a critical barrier for users with visual impairments.<sup>46</sup> Additionally, broken links were consistently identified across the websites, hindering usability. Notably, privately-owned banks demonstrated the lowest proportion of sites with broken links, though this still amounted to 75% of such websites, underscoring significant gaps in accessibility compliance across the Turkish banking sector.<sup>47</sup>

In another paper, Yanusha et al., through the combined use of experiential and tool-based evaluation approaches, underscored critical gaps in usability. Their findings highlighted the need for enhanced focus on aspects such as loading speed, mobile responsiveness, and adherence to established standards. Furthermore, they emphasized that customer expectations across all evaluated areas of usability were inadequately met, revealing persistent challenges in optimizing

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<sup>41</sup> *ibid.*

<sup>42</sup> Ishaq O. Oyefolahan and others, 'Keeping with the Global Trends: An Evaluation of Accessibility and Usability of Nigerian Banks Websites' (2019) 11 *International Journal of Information Engineering and Electronic Business* 44.

<sup>43</sup> *ibid.*

<sup>44</sup> *ibid.*

<sup>45</sup> Yakup Akgül, 'Accessibility, Usability, Quality Performance, and Readability Evaluation of University Websites of Turkey: A Comparative Study of State and Private Universities' (2021) 20 *Universal Access in the Information Society* 157.

<sup>46</sup> '(PDF) Banking Websites in Turkey: An Accessibility, Usability and Security Evaluation | Yakup Akgül - Academia.Edu' <[https://www.academia.edu/83773316/Banking\\_Websites\\_in\\_Turkey\\_an\\_Accessibility\\_Usability\\_and\\_Security\\_Evaluation](https://www.academia.edu/83773316/Banking_Websites_in_Turkey_an_Accessibility_Usability_and_Security_Evaluation)> accessed 18 August 2023.

<sup>47</sup> Yakup Akgül, 'Accessibility, Usability, Quality Performance, and Readability Evaluation of University Websites of Turkey: A Comparative Study of State and Private Universities' (2021) 20 *Universal Access in the Information Society* 157.

user experience.<sup>48</sup> In a separate survey by Brian Wentz and Dung (June), in their study Exploring the Accessibility of Banking and Finance Systems for Blind Users, conducted a survey of 162 blind individuals to analyse their experiences with banking websites and mobile applications.<sup>49</sup> The findings revealed a strong preference among respondents for web-based banking services over in-person visits to bank locations. However, significant accessibility challenges were reported, including issues with headers, alternative text, clear labeling, timed content, and navigation mechanisms.<sup>50</sup> Furthermore, participants expressed frustration with CAPTCHA systems, citing the lack of functional audio options, inaccessible activation buttons for audio CAPTCHA, and poor usability of the audio CAPTCHA itself.<sup>51</sup> These barriers underscore critical gaps in the design and implementation of accessible digital banking platforms.

In the United States, an examination of 18 major banking websites by Brian Reil Norman uncovered 72 instances of non-compliance with accessibility standards<sup>52</sup>. The findings suggested that many banks were not adequately addressing the shift from physical to digital banking, leaving significant room for improvement in online services. Norman concluded that improving online accessibility is essential for mitigating the declining accessibility of physical banking services.<sup>53</sup>

Similarly, studies from India and Tanzania corroborate the global nature of these accessibility deficits. An evaluation of 48 Indian banking websites by Diksha Dani revealed that none fully adhered to accessibility standards, with no significant distinction between public and private sector banks in terms of compliance.<sup>54</sup> Key shortcomings included the absence of alternative text, unclear link purposes, and failure to specify webpage language. Finally, an analysis of 79 Tanzanian e-government websites identified common issues such as broken links, excessive page-loading times, and oversized webpages—all contributing to a suboptimal user experience.<sup>55</sup> The lack of alternative text for images and unassociated labels on form controls further compounded accessibility barriers.<sup>56</sup>

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<sup>48</sup> S Roopa and MS Rani, 'Questionnaire Designing for a Survey' (2012) 46 The Journal of Indian Orthodontic Society 273.

<sup>49</sup> Brian Wentz, Dung Pham Pham and Kailee Tressler, 'Exploring the Accessibility of Banking and Finance Systems for Blind Users' (2017) 22 First Monday.

<sup>50</sup> *ibid.*

<sup>51</sup> Julia Roberts, 'J.D. Candidate 2022, University of Houston Law Center. I Sincerely Thank Professors Jim Hawkins and Julia Roberts for Comments and Conversations on This Article.'

<sup>52</sup> Wentz, B., Pham, D., Feaser, E. et al. Documenting the accessibility of 100 US bank and finance websites. *Univ Access Inf Soc* 18, 871–880 (2019). <https://doi.org/10.1007/s10209-018-0616-6>

<sup>53</sup> Wentz, B., Pham, D., Feaser, E. et al. Documenting the accessibility of 100 US bank and finance websites. *Univ Access Inf Soc* 18, 871–880 (2019). <https://doi.org/10.1007/s10209-018-0616-6>

<sup>54</sup> Arvinder Kaur and Diksha Dani, 'Banking Websites in India: An Accessibility Evaluation' (2014) 2 CSI Transactions on ICT 23.

<sup>55</sup> Noe Elisa, 'Usability, Accessibility and Web Security Assessment of E-Government Websites in Tanzania' (2020) 164 *International Journal of Computer Applications* 42 <<http://arxiv.org/abs/2006.14245>> accessed 18 August 2023.

<sup>56</sup> *ibid.*

The studies reviewed above reveal a recurring theme: accessibility challenges in FinTech disproportionately impact visually impaired individuals, limiting their ability to fully benefit from digital financial services. Addressing these barriers, including usability deficits, inadequate design considerations, and non-compliance with accessibility standards, is critical to creating inclusive platforms. By prioritizing accessibility, stakeholders in the FinTech industry can not only foster equitable financial participation for marginalized groups but also unlock broader social and economic benefits, driving innovation and growth in the financial sector.

### 1.9.3 Fintech and Financial Inclusion

The concept of digital financial inclusion refers to the ability to access and utilize formal financial services through digital platforms such as mobile phones and computers.<sup>57</sup> These services encompass a wide range of activities, including digital payments, lending, marketplace funding, mobile money, and mobile banking.<sup>58</sup> The significance of digital financial inclusion lies in its capacity to expand access to financial services, particularly in regions where traditional banking infrastructure is limited or nonexistent. Between 2014 and 2017, many countries experienced significant growth in digital financial inclusion, even in cases where traditional financial inclusion had stagnated or declined.<sup>59</sup>

This trajectory underscores the transformative potential of Fintech in bridging longstanding financial accessibility gaps. A key expectation of Fintech has been its role in addressing inefficiencies in payments and lending, particularly in underserved and unbanked populations. While some scholars, such as Demirgüç-Kunt<sup>60</sup> and Tang<sup>61</sup> posit that Fintech primarily complements traditional banking services rather than replacing them, alternative perspectives offer a contrasting view. Researchers such as Hau, Jagtiani, Lemieux, Sumit, and Frost argue that Fintech and big tech lenders uniquely cater to borrowers overlooked by conventional banking institutions, offering services tailored to their specific needs.<sup>62</sup> This dual perspective underscores the complex dynamics between Fintech and traditional financial systems, raising questions about their interplay in the broader financial ecosystem.

Despite its rapid growth, the scholarly examination of Fintech's impact on financial inclusion remains relatively underdeveloped. Existing research on the role of Fintech in narrowing digital

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<sup>57</sup> 'Digital Financial Inclusion' <<https://www.worldbank.org/en/topic/financialinclusion/publication/digital-financial-inclusion#:~:text=Digital financial inclusion involves the,customers and sustainable for providers.>> accessed 18 August 2023.

<sup>58</sup> David L Shrier, 'Digital Financial Services' [2022] Global Fintech 73.

<sup>59</sup> 'Inclusive Banking: Emerging Practices to Advance the Economic Inclusion of Persons with Disabilities' <<https://www.ifc.org/en/insights-reports/2022/practices-to-advance-the-economic-inclusion-of-persons-with-disabilities>> accessed 18 August 2023.

<sup>60</sup> Asli Demirgüç-Kunt, Leora Klapper and Dorothe Singer, *Financial Inclusion and Inclusive Growth: A Review of Recent Empirical Evidence* (World Bank, Washington, DC 2017).

<sup>61</sup> 'Inclusive Banking: Emerging Practices to Advance the Economic Inclusion of Persons with Disabilities' (n 58).

<sup>62</sup> Yoke Wang Tok and Dyna Heng, 'Fintech: Financial Inclusion or Exclusion?' (2022) 2022 IMF Working Papers.

divides among marginalized groups, such as women, the elderly, and persons with disabilities, is particularly scarce.<sup>63</sup>

This gap in the literature is partly attributed to the lack of robust, comprehensive data on Fintech-specific variables and reliable indicators of digital financial inclusion. Traditional metrics, which were designed to measure access to conventional financial systems, often fall short of capturing the nuances of digital financial inclusion. Consequently, analyses relying solely on these conventional indicators risk drawing incomplete or inaccurate conclusions regarding the true impact of Fintech.<sup>64</sup> Sahay's seminal work provides empirical evidence to bridge this gap, offering critical insights into how Fintech drives financial inclusion.<sup>65</sup> Through innovations such as mobile money, mobile point-of-sale devices, and crowdfunding platforms, Fintech has created low-cost, efficient, and collateral-free avenues for households and businesses to manage payments, access credit, and improve cash flow.<sup>66</sup>

To better capture the evolving landscape of financial inclusion, Sahay and colleagues developed a dual framework: one indicator measuring digital financial inclusion, drawn from data on mobile and internet-based payment services, and another assessing traditional financial inclusion through conventional banking services.<sup>67</sup> Their findings reveal that digital financial inclusion experienced significant growth in the years preceding the COVID-19 pandemic, with African nations emerging as leaders in this transformation. In countries like Zimbabwe, South Africa, Kenya, and Nigeria, Fintech innovations have been pivotal, driving financial inclusion through mobile payment systems and other digital solutions.<sup>68</sup>

This growing body of research underscores the transformative potential of Fintech in advancing financial inclusion, particularly for underserved groups such as blind individuals in Kenya. By bridging access gaps, Fintech offers promising solutions to long-standing inequalities. However, the absence of robust, comprehensive datasets on marginalized populations impedes progress and challenges accurate assessments of its impact. Addressing this data deficiency is crucial to ensuring that Fintech innovations effectively enhance financial inclusion for all.

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<sup>63</sup> Dyna Heng and Yoke Wang Tok, 'Fintech: Financial Inclusion or Exclusion?' (2022) 2022 IMF Working Papers 1.

<sup>64</sup> *ibid.*

<sup>65</sup> 'The Promise of Fintech: Financial Inclusion in the Post COVID-19 Era'

<<https://www.imf.org/en/Publications/Departmental-Papers-Policy-Papers/Issues/2020/06/29/The-Promise-of-Fintech-Financial-Inclusion-in-the-Post-COVID-19-Era-48623>> accessed 18 August 2023.

<sup>66</sup> *ibid.*

<sup>67</sup> *ibid.*

<sup>68</sup> *ibid.*

#### 1.9.4 The Dark Side of Fintech

Fintech is often celebrated as a transformative force, addressing real-world issues through innovative business models.<sup>69</sup> For instance, as noted by Brinda Sampat, Emmanuel Mogaji, and Nguyen Phong Nguyen in their paper ‘The Dark Side of FinTech in Financial Services’, payment applications enable migrant workers to send money home to remote areas with minimal cost and effort.<sup>70</sup> These applications are designed to bridge critical gaps in financial inclusion, yet they often unintentionally exacerbate existing inequalities. Similarly, they note Fintech lending services aim to fill the void where traditional financial institutions fall short, such as through crowdfunded loans for SMEs that address financing challenges and enhance cash flow.<sup>71</sup> However, as digital financial services expand, researchers and regulators are increasingly focusing on the "dark side of Fintech", a term referring to the unintended negative consequences of these innovations.<sup>72</sup> This includes the exclusion of marginalized groups—such as women, the elderly, economically disadvantaged individuals, and minority communities—as well as risks from algorithmic biases and exploitative lending practices.<sup>73</sup>

Yoke Wang Tok and Dyna Heng, in their paper Fintech: Financial Inclusion or Exclusion?, noted that the Covid-19 pandemic accelerated the shift to digital financial services, heightening concerns about its "dark side." They highlighted the exclusion of individuals lacking access to digital payments or deposit accounts, which prevented them from benefiting from government-to-person (G2P) support initiatives.<sup>74</sup> They further note that Even in the United States, where financial inclusion is high (93% of adults have bank accounts), a 13-percentage-point gap persists between the wealthiest and poorest households, noting the Contributing factors to include limited access to digital infrastructure, financial and digital illiteracy, algorithmic biases, and lack of trust.<sup>75</sup>

Polyxeni Vassilakopoulou and Eli Hustad, in their work Bridging Digital Divides, emphasize the high hopes associated with digitization and the internet as tools to reduce societal disparities. They highlight Sir Tim Berners-Lee's 1997 Web Accessibility Initiative, where he underscored the importance of making the web accessible to all, regardless of individual abilities or disabilities.<sup>76</sup>

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<sup>69</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>70</sup> Brinda Sampat, Emmanuel Mogaji and Nguyen Phong Nguyen, ‘The Dark Side of FinTech in Financial Services: A Qualitative Enquiry into FinTech Developers’ Perspective’ (2023) ahead-of-print International Journal of Bank Marketing.

<sup>71</sup> *ibid.*

<sup>72</sup> Brinda Sampat, Emmanuel Mogaji and Nguyen Phong Nguyen, ‘The Dark Side of FinTech in Financial Services: A Qualitative Enquiry into FinTech Developers’ Perspective’ [2023] International Journal of Bank Marketing.

<sup>73</sup> *ibid.*

<sup>74</sup> Yoke Wang Tok and Dyna Heng, ‘Fintech: Financial Inclusion or Exclusion?’ (2022) 2022 IMF Working Papers.

<sup>75</sup> *ibid.*

<sup>76</sup> Polyxeni Vassilakopoulou and Eli Hustad, ‘Bridging Digital Divides: A Literature Review and Research Agenda for Information Systems Research’ (2023) 25 Information Systems Frontiers 955.

A 2019 UN report highlights significant accessibility challenges for persons with disabilities, with 28% of banks in developed countries and 8–64% in emerging economies deemed inaccessible.<sup>77</sup> A study by Mastercard reveals that Globally, 2.2 billion people face near or distance vision impairments, creating an annual productivity cost of \$411 billion.<sup>78</sup> The report reveals among these, 43 million are blind, and 295 million have moderate-to-severe visual impairments.<sup>79</sup>

In Africa, 26.3 million people have visual impairments, including 5.9 million classified as blind.<sup>80</sup> while In Kenya, 0.7% of rural residents meet WHO blindness criteria, while 2.5% face significant visual challenges.<sup>81</sup>

In an earlier study, Dobransky and Hargittai observed a "disability digital divide," noting variability in disadvantage across disabilities.<sup>82</sup> They observed that individuals with hearing or mobility impairments demonstrate higher internet usage compared to other disability groups, and further identified blindness, challenges in leaving home, and multiple disabilities as significantly disadvantaging factors in digital access.<sup>83</sup> They emphasized the need for nuanced research by disaggregating disability categories, cautioning that aggregating diverse disabilities into a single category risks oversimplification and undermines accurate analysis.<sup>84</sup> Similarly, Scholz et al. analyzed data from 27 European countries and identified a distinct "disability effect" concerning digital divides. Their findings revealed that individuals with disabilities are disproportionately represented among those excluded from digital participation, underscoring the persistent barriers faced by this community in accessing digital infrastructure.<sup>85</sup>

The reviewed literature underscores significant barriers faced by persons with disabilities, particularly those with visual impairments, in accessing digital and financial services. These challenges, compounded by their unique needs, highlight the inadequacy of generalized approaches to addressing digital divides. There is a pressing need for targeted research on persons with visual impairments as a disaggregated disability group, and that is the reason this study dives into the research.

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<sup>77</sup> 'Technology Can Accelerate Financial Inclusion for Persons with Disabilities, Finds Mastercard Study | Mastercard Newsroom'

<<https://www.mastercard.com/news/eemea/en/newsroom/press-releases/press-releases/en/2022/may/technology-can-accelerate-financial-inclusion-for-persons-with-disabilities-finds-mastercard-study/>> accessed 18 August 2023.

<sup>78</sup> *ibid.*

<sup>79</sup> 'Global Blindness Was Slowing Prior to Pandemic Study Reveals | Orbis'

<<https://www.orbis.org/en/news/2021/new-global-blindness-data>> accessed 18 August 2023.

<sup>80</sup> 'Eye Health | WHO | Regional Office for Africa' <<https://www.afro.who.int/health-topics/eye-health#:~:text=Approximately 26.3 million people in,blind population reside in Africa.>> accessed 18 August 2023.

<sup>81</sup> *ibid.*

<sup>82</sup> Meri Tuulia Kaarakainen and Loretta Saikkonen, 'Remark on Digital Accessibility: Educational Disparities Define Digital Inclusion from Adolescence Onwards' [2022] Universal Access in the Information Society 1.

<sup>83</sup> *ibid.*

<sup>84</sup> *ibid.*

<sup>85</sup> G Anthony Giannoumi and others, 'Web Accessibility and Technology Protection Measures: Harmonizing the Rights of Persons with Cognitive Disabilities and Copyright Protections on the Web' (2017) 11 *Cyberpsychology*.

### 1.9.5 Social and Economic Aspect

The role of digital inclusion in advancing financial inclusion for persons with disabilities has been well-documented in contemporary studies. A report by MasterCard highlights that fostering digital accessibility acts as a gateway to financial services for this group.<sup>86</sup> Government-led initiatives to implement policies enhancing service accessibility create critical pathways for collaboration among financial institutions, mobile network operators (MNOs), fintech companies, and other stakeholders.<sup>87</sup> These actors are thus positioned to design and deploy inclusive solutions that address accessibility gaps effectively. Complementing this perspective, research by the International Finance Corporation (IFC) indicates that approximately 1.3 billion people globally—16% of the world’s population—live with disabilities, collectively wielding a disposable income nearing USD 2 trillion.<sup>88</sup> This market expands to include 3.4 billion individuals when factoring in family members and caregivers, reflecting its substantial social and economic significance.<sup>89</sup>

The inclusion of persons with disabilities is not merely a moral and legal imperative rooted in universal human rights but also a critical driver of economic growth and business performance.<sup>90</sup> Discrimination on the grounds of disability—including failure to ensure equal access to employment and financial services—violates universal human rights, but also harms business performance and economic growth.<sup>91</sup> Discrimination in the form of restricted access to employment opportunities and financial services imposes significant economic costs, with some estimates suggesting losses of up to 7% of GDP in economies that fail to address such inequities.<sup>92</sup>

Furthermore, evidence from Accenture underscores the business case for inclusion, demonstrating that U.S. companies leading in disability inclusion report 28% higher revenue and 30% superior profit margins compared to their counterparts.<sup>93</sup>

In the context of fintech, improving the accessibility of financial products and services presents a strategic opportunity for providers to expand their customer base while addressing social disparities.<sup>94</sup> Enhanced accessibility benefits not only individuals but also bolsters investor confidence. Increasingly, global investors, including the IFC, are prioritizing the social impact of businesses, with disability inclusion emerging as a key performance criterion for evaluating investees.<sup>95</sup>

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<sup>86</sup> The and Gap (n 15).

<sup>87</sup> *ibid.*

<sup>88</sup> ‘Inclusive Banking: Emerging Practices to Advance the Economic Inclusion of Persons with Disabilities’ (n 11).

<sup>89</sup> *ibid.*

<sup>90</sup> *ibid.*

<sup>91</sup> *ibid.*

<sup>92</sup> *ibid.*

<sup>93</sup> *ibid.*

<sup>94</sup> *ibid.*

<sup>95</sup> *ibid.*

As it is evident from the above scholarly work, the existing literature predominantly addresses disability as a broad category, failing to adequately examine the unique challenges faced by visually impaired individuals in accessing fintech services. This lack of specificity limits a nuanced understanding of their distinct accessibility barriers. Furthermore, there is a notable absence of legal and regulatory analysis concerning fintech inclusion for visually impaired persons, leaving a critical gap in assessing the adequacy of existing frameworks.

Additionally, much of the current scholarship focuses on web-based platforms, with limited attention given to fintech applications and other digital financial tools that visually impaired individuals rely on. These gaps underscore the need for a comprehensive legal and regulatory assessment tailored to fintech accessibility for visually impaired users. This thesis seeks to bridge these research deficiencies by critically examining the legal framework governing fintech accessibility in Kenya and proposing pragmatic solutions to enhance financial inclusion for visually impaired persons.

## **1.10 Research Methodology**

This study employs a doctrinal approach as its foundation. The analysis focuses on interpreting legal texts, doctrines, and principles drawn from both primary sources, such as statutes, judicial decisions, and policy documents, and secondary sources, including scholarly articles and reports. By systematically examining Kenya's legal framework, this method assesses its adequacy in addressing Fintech accessibility for blind users, offering insights into gaps that hinder financial inclusion and equitable participation.

This study also adopts a comparative approach, drawing best practices from the UK and Canada to enhance fintech accessibility in Kenya. By examining their legal and regulatory frameworks, the study identifies strategies that can inform Kenya's digital financial inclusion efforts.

## **1.11 Chapter Breakdown**

### **1.11.1 Chapter One Introduction**

This chapter introduces the topic of research and states the problem. It justifies the study and provides a theoretical framework. This chapter evaluates the existing literature on the topic, states the research objectives and formulates research questions and hypotheses. The chapter identifies the methodology to be used in the research and gives the limitations to the study.

### **1.11.2 Chapter Two – The Intersection Between FinTech Accessibility and Financial Inclusion**

The chapter will commence with an introductory statement providing an overview of the relationship between fintech and financial inclusion, highlighting the significance of fintech accessibility in ensuring equitable participation for blind users. It will outline the key components of fintech accessibility, defining its role in fostering economic empowerment and financial independence for persons with disabilities.

This chapter will explore the foundational principles of fintech accessibility, analyzing their applicability and effectiveness in promoting inclusion within Kenya's digital financial ecosystem. It will examine existing accessibility measures, assessing their adequacy in bridging the financial inclusion gap for blind users.

Furthermore, the chapter will critically evaluate the extent to which fintech accessibility aligns with international standards and best practices, identifying gaps that require regulatory intervention. By establishing a clear understanding of the accessibility landscape, this chapter sets the stage for subsequent discussions on Kenya's legal and regulatory frameworks governing fintech accessibility.

### **1.11.3 Chapter Three - Assessing Kenya's Legal and Regulatory Framework for FinTech Accessibility**

The chapter will begin with an introductory statement highlighting the importance of a well-defined legal and regulatory framework in promoting fintech accessibility for blind users in Kenya. It will build upon the foundational understanding established in the preceding chapter, shifting focus from the general principles of fintech accessibility to the specific legal and institutional mechanisms that govern it.

This chapter will analyze sector-specific and cross-cutting laws that influence fintech accessibility, examining their effectiveness in fostering inclusivity within Kenya's digital financial ecosystem. It will evaluate the roles of regulatory bodies, legislative provisions, and enforcement mechanisms in ensuring that fintech platforms align with accessibility requirements.

Additionally, the chapter will identify gaps, inconsistencies, and weaknesses within the current legal framework, highlighting areas that require reform to enhance digital financial inclusion. By providing a structured analysis of Kenya's regulatory landscape, this chapter lays the groundwork for discussions on legal challenges and best practices explored in subsequent chapters.

### **1.11.4 Chapter 4 Inherent Legal and Regulatory Shortcomings Affecting Financial Inclusion and Fintech Accessibility for Visually Impaired Persons**

This section will identify and analyse the legal and regulatory challenges hindering fintech accessibility for blind users in Kenya. It will examine existing laws and regulations pertaining to accessibility and financial inclusion, highlighting areas of ambiguity or insufficiency. It will explore ethical challenges surrounding fintech accessibility for blind users, including issues of equity, discrimination, and data privacy. It will discuss ethical principles and dilemmas relevant to promoting financial inclusion while ensuring the rights and dignity of blind individuals are upheld.

### **1.11.5 Chapter 5 international legal frameworks, standards, guidelines and best practices that can guide the development of legal and ethical guidelines for fintech accessibility for blind users in Kenya**

This chapter will focus on How international legal frameworks, policies and standards address the rights of blind users in accessing and using fintech services, offer a comparative legal approach,

best practices and case studies taken by other countries that have successfully enhanced financial inclusion for blind users through legal and ethical measures in the fintech sector, and what lessons can be derived for the Kenyan legal framework.

### **1.11.6 Chapter 6 Conclusion and Recommendations**

This chapter will conclude the thesis by summarizing the key findings and contributions of the literature review, as well as presenting recommendations for policymakers, financial service providers, and technology developers. These recommendations will focus on promoting collaboration between stakeholders, raising awareness about the importance of fintech accessibility for blind users, and implementing inclusive design principles in the development of financial products and services.



## **Chapter 2: The Intersection between Fintech Accessibility and Financial Inclusion**

### **2.1 Introduction**

Building upon the foundation established in Chapter 1, which delineated the research objectives and provided an extensive analysis of the theoretical framework and relevant literature, this chapter advances the discourse by examining the intersection of fintech accessibility and financial inclusion for visually impaired individuals. The preceding discussion highlighted the structural and technological barriers that continue to impede equitable access to digital financial services, underscoring the imperative for enhanced accessibility within the fintech landscape.

As digital financial solutions increasingly shape global economic participation, ensuring their usability for visually impaired individuals is not merely a subsidiary concern but a fundamental component of inclusive financial systems. This chapter undertakes a critical examination of the technological, structural, and usability challenges that affect accessibility, offering a comprehensive analysis of how fintech innovations can either facilitate or hinder financial inclusion.

The chapter is structured into three primary sections. The first contextualizes financial inclusion within the broader fintech ecosystem, emphasizing its significance for visually impaired individuals. The second evaluates existing accessibility features and technological advancements, assessing their efficacy in fostering inclusive financial engagement. The final section examines the core principles underpinning fintech accessibility, providing a critical analysis of their role in shaping digital financial services while identifying persistent barriers that warrant further intervention.

By systematically addressing these themes, this chapter builds upon the insights presented in Chapter 1 and establishes a conceptual framework for the subsequent discussion on regulatory and policy considerations. The analysis presented herein serves as a crucial foundation for understanding the broader implications of fintech accessibility and its contribution to fostering equitable and inclusive economic participation.

### **2.2 Contextualizing Financial Inclusion within the Fintech Landscape**

Financial inclusion is widely recognized as a fundamental instrument for fostering economic participation, mitigating social inequalities, and promoting sustainable development.<sup>96</sup> It ensures that individuals, irrespective of socioeconomic status, geographical location, or physical ability, have unfettered access to essential financial services that enable economic autonomy and

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<sup>96</sup> Goundar, Sam, and Milind Sathye. "Exploring access to financial services by visually impaired people." *Journal of Risk and Financial Management* 16, no. 2 (2023): 96.

security.<sup>97</sup> As global financial systems increasingly shift toward digitalization, fintech has emerged as a transformative force, restructuring traditional modes of financial service delivery and presenting novel opportunities for expanding financial inclusion to previously marginalized groups, including visually impaired individuals.<sup>98</sup>

The intersection between financial inclusion and fintech accessibility is both complementary and interdependent. Financial inclusion seeks to dismantle barriers that restrict participation in formal financial ecosystems, while fintech serves as the principal mechanism through which these barriers can be alleviated.<sup>99</sup> The digitization of financial services has significantly disrupted conventional banking models, shifting transactions from physical interactions to virtual platforms that offer enhanced efficiency, automation, and scalability.<sup>100</sup> For visually impaired persons, this transformation has profound implications, as digital financial services—when designed with accessibility at their core—can eliminate reliance on physical banking infrastructure, offering unprecedented autonomy in financial decision-making.<sup>101</sup>

At the heart of this interplay lies the principle of accessibility, which functions as both a prerequisite and an enabler of meaningful financial inclusion.<sup>102</sup> Fintech platforms that integrate accessibility features such as screen-reader compatibility, voice-assisted transaction capabilities, and biometric authentication mechanisms enhance usability, thereby facilitating financial engagement among visually impaired individuals.<sup>103</sup> In this context, fintech is not merely an innovation-driven sector but a critical conduit for achieving financial inclusivity. The ability of visually impaired individuals to interact with digital banking systems independently, manage personal finances without intermediaries, and leverage financial tools tailored to their needs

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<sup>97</sup> Goundar, Sam, and Milind Sathye. "Exploring access to financial services by visually impaired people." *Journal of Risk and Financial Management* 16, no. 2 (2023): 96.

<sup>98</sup> Okonji, Patrick Emeka, and Darlington Chukwunalu Ogwezy. "Financial inclusion: perceptions of visually impaired older Nigerians." *Journal of Enabling Technologies* 12, no. 1 (2018): 10-21.

<sup>99</sup> Ilyasa, Ilham, Rahmat Fauzi, and Sinung Suakanto. "Creating a Mobile E-Wallet for Visual Impairment Using an Inclusive Design Approach: A Case Study in Bandung, Indonesia." In *International Conference on Enterprise and Industrial Systems (ICOEINS 2023)*, pp. 4-15. Atlantis Press, 2023.

<sup>100</sup> Ilyasa, Ilham, Rahmat Fauzi, and Sinung Suakanto. "Creating a Mobile E-Wallet for Visual Impairment Using an Inclusive Design Approach: A Case Study in Bandung, Indonesia." In *International Conference on Enterprise and Industrial Systems (ICOEINS 2023)*, pp. 4-15. Atlantis Press, 2023.

<sup>101</sup> Ilyasa, Ilham, Rahmat Fauzi, and Sinung Suakanto. "Creating a Mobile E-Wallet for Visual Impairment Using an Inclusive Design Approach: A Case Study in Bandung, Indonesia." In *International Conference on Enterprise and Industrial Systems (ICOEINS 2023)*, pp. 4-15. Atlantis Press, 2023.

<sup>102</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>103</sup> *Ibid.*

exemplifies the transformative potential of accessible fintech in promoting equitable economic participation.<sup>104</sup>

Beyond individual empowerment, accessible fintech solutions also contribute to broader systemic advancements in financial inclusion policy and practice.<sup>105</sup> The growing recognition of digital accessibility as an essential component of financial service delivery has spurred discussions among policymakers, financial institutions, and technology developers regarding the integration of accessibility standards within fintech platforms.<sup>106</sup> This evolving discourse underscores the necessity of aligning financial inclusion strategies with technological innovations, ensuring that fintech solutions are not only widely available but meaningfully usable by diverse populations, including those with visual impairments.

Thus, financial inclusion and fintech accessibility must be understood as mutually reinforcing dimensions of a comprehensive economic inclusion framework. The advancement of one necessitates the prioritization of the other, as inaccessible fintech solutions risk perpetuating exclusion, whereas accessible fintech platforms can significantly accelerate financial inclusion efforts.<sup>107</sup> This interconnection highlights the imperative for fintech providers, regulators, and policymakers to collaboratively enhance digital financial accessibility, fostering an inclusive financial ecosystem where visually impaired individuals can fully and equitably participate.

### **2.3 Accessibility Features and Technological Advancements in Fintech**

Financial inclusion for visually impaired individuals necessitates a fintech ecosystem that prioritizes accessibility, usability, and equitable access.<sup>108</sup> Research underscores that achieving inclusivity in financial technology requires a deliberate and structured approach to digital accessibility, ensuring that financial services are available to users irrespective of their physical abilities.<sup>109</sup> Best practices advocate for integrating multiple accessibility features, including

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<sup>104</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>105</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>106</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>107</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>108</sup> Puli, Louise, Natasha Layton, Diane Bell, and Abu Zafar Shahriar. "Financial inclusion for people with disability: a scoping review." *Global Health Action* 17, no. 1 (2024): 2342634.

<sup>109</sup> Puli, Louise, Natasha Layton, Diane Bell, and Abu Zafar Shahriar. "Financial inclusion for people with disability: a scoping review." *Global Health Action* 17, no. 1 (2024): 2342634.

alternative modes of operation, non-visual access mechanisms, and assistive technologies, to enhance user autonomy and foster independent financial participation.

### **2.3.1 Non-Visual Access and Alternative Interfaces in Fintech**

Studies highlight the importance of designing financial technology platforms that transcend traditional visual interfaces, enabling users with visual impairments to interact with digital financial tools without reliance on sight-based navigation.<sup>110</sup> Well-formed semantic structures within web pages and financial applications serve as fundamental enablers of non-visual access, ensuring that fintech platforms remain operable for users relying on assistive technologies such as screen readers and Braille interfaces.<sup>111</sup>

Beyond structural optimization, auxiliary accessibility features such as audio cues and tactile feedback mechanisms enhance usability by providing alternative interaction methods.<sup>112</sup> Research suggests that auditory and tactile interfaces significantly improve financial accessibility, allowing users to receive real-time transaction confirmations, interpret financial data audibly, and navigate fintech applications through non-visual guidance.<sup>113</sup> These best practices are crucial in establishing seamless digital engagement, reinforcing independent financial decision-making among visually impaired individuals.

### **2.3.2 Screen Reader Compatibility and Text-to-Speech Integration**

Ensuring that fintech platforms are fully compatible with assistive screen-reader technologies remains a cornerstone of inclusive digital finance.<sup>114</sup> Empirical analyses demonstrate that integrating structured markup and well-defined navigation pathways into fintech applications enhances usability for screen-reader users, enabling efficient interpretation of financial content.<sup>115</sup> Text-to-speech functionality further complements screen-reader compatibility by providing auditory feedback during transactions, account management processes, and financial inquiries.<sup>116</sup>

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<sup>110</sup> Ilyasa, Ilham, Rahmat Fauzi, and Sinung Suakanto. "Creating a Mobile E-Wallet for Visual Impairment Using an Inclusive Design Approach: A Case Study in Bandung, Indonesia." In International Conference on Enterprise and Industrial Systems (ICOEINS 2023), pp. 4-15. Atlantis Press, 2023.

<sup>111</sup> Ilyasa, Ilham, Rahmat Fauzi, and Sinung Suakanto. "Creating a Mobile E-Wallet for Visual Impairment Using an Inclusive Design Approach: A Case Study in Bandung, Indonesia." In International Conference on Enterprise and Industrial Systems (ICOEINS 2023), pp. 4-15. Atlantis Press, 2023.

<sup>112</sup> Ilyasa, Ilham, Rahmat Fauzi, and Sinung Suakanto. "Creating a Mobile E-Wallet for Visual Impairment Using an Inclusive Design Approach: A Case Study in Bandung, Indonesia." In International Conference on Enterprise and Industrial Systems (ICOEINS 2023), pp. 4-15. Atlantis Press, 2023.

<sup>113</sup> *ibid*

<sup>114</sup> Bathik, Syariif Abdurrahman, Rahmat Fauzi, and Sinung Suakanto. "Enabling Financial Inclusion: Development and Implementation of Visipay's Backend System for Users with Visual Impairments." In 2023 3rd International Conference on Electronic and Electrical Engineering and Intelligent System (ICE3IS), pp. 454-459. IEEE, 2023.

<sup>115</sup> Bathik, Syariif Abdurrahman, Rahmat Fauzi, and Sinung Suakanto. "Enabling Financial Inclusion: Development and Implementation of Visipay's Backend System for Users with Visual Impairments." In 2023 3rd International Conference on Electronic and Electrical Engineering and Intelligent System (ICE3IS), pp. 454-459. IEEE, 2023.

<sup>116</sup> *ibid*

Studies emphasize that fintech providers must embed intuitive screen-reader compatibility in their platforms, ensuring seamless access to banking services, mobile payment solutions, and investment portals.<sup>117</sup> Research suggests that structured focus order, error indication mechanisms, and sequential prompts improve user experience, mitigating navigation complexities that could impede financial autonomy.<sup>118</sup>

### **2.3.3 Voice-Activated Banking and AI-driven Assistants**

AI-driven voice assistants have emerged as pivotal accessibility tools within fintech, allowing visually impaired individuals to execute financial transactions through speech commands rather than manual navigation.<sup>119</sup> Research highlights that incorporating voice-activated banking solutions enhances financial engagement, particularly in scenarios requiring hands-free interaction or rapid transactional processing.

Voice authentication mechanisms further strengthen accessibility, mitigating reliance on conventional password-based security protocols that may pose usability challenges for visually impaired users.<sup>120</sup> However, studies indicate that the effectiveness of voice banking depends on linguistic precision, adaptability to various speech patterns, and seamless integration with fintech security measures.<sup>121</sup>

### **2.3.4 Biometric Authentication**

Best practices recommend biometric authentication methods—such as fingerprint recognition and facial scanning—as optimal security solutions for enhancing accessibility within digital financial ecosystems.<sup>122</sup> Biometric verification eliminates the need for complex alphanumeric passwords, reducing authentication barriers for visually impaired users while simultaneously strengthening cybersecurity measures.<sup>123</sup>

Empirical research underscores the significance of biometric authentication in fintech accessibility, demonstrating its efficacy in streamlining secure access to financial accounts, mobile payment

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<sup>117</sup> Bathik, Syariif Abdurrahman, Rahmat Fauzi, and Sinung Suakanto. "Enabling Financial Inclusion: Development and Implementation of Visipay's Backend System for Users with Visual Impairments." In 2023 3rd International Conference on Electronic and Electrical Engineering and Intelligent System (ICE3IS), pp. 454-459. IEEE, 2023.

<sup>118</sup> *Ibid.*

<sup>119</sup> Law, Sau Wai. "Financial Inclusion, Technology and Virtual Banking." Springer Books (2024).

<sup>120</sup> Law, Sau Wai. "Financial Inclusion, Technology and Virtual Banking." Springer Books (2024).

<sup>121</sup> *Ibid.*

<sup>122</sup> Raheem, Salma, Atta Addo, Samah Shaffakat, and Dana Lunberry. "Designing for financial inclusion in developing countries: Digital financial service for low-income women in Ghana." *The Information Society* 40, no. 5 (2024): 376-394.

<sup>123</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

platforms, and contactless transaction systems.<sup>124</sup> Studies also advocate for integrating voice-based biometric authentication, enabling users to authorize transactions securely through voice recognition technology.<sup>125</sup>

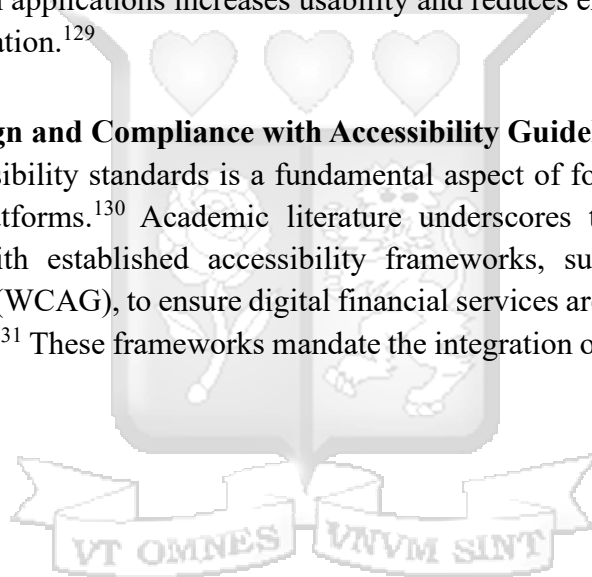
### **2.3.5 Audio-Based Transaction Confirmation and Tactile Feedback**

Ensuring transactional accuracy and user confidence within fintech platforms necessitates audio-based confirmation mechanisms that provide verbal prompts for transaction verification.<sup>126</sup> Studies emphasize that financial applications integrating real-time speech output for transaction confirmations significantly improve user autonomy, allowing visually impaired individuals to complete financial tasks independently.<sup>127</sup>

Tactile feedback technology further enhances accessibility, providing vibratory or haptic responses to confirm transaction success or alert users to errors.<sup>128</sup> Research underscores that integrating tactile cues within fintech applications increases usability and reduces errors associated with non-visual transaction verification.<sup>129</sup>

### **2.3.6 Inclusive UX Design and Compliance with Accessibility Guidelines**

Adherence to web accessibility standards is a fundamental aspect of fostering inclusivity within financial technology platforms.<sup>130</sup> Academic literature underscores the necessity for fintech providers to comply with established accessibility frameworks, such as the Web Content Accessibility Guidelines (WCAG), to ensure digital financial services are accessible to individuals with visual impairments.<sup>131</sup> These frameworks mandate the integration of critical design elements,



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<sup>124</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>125</sup> *ibid.*

<sup>126</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>127</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>128</sup> *ibid.*

<sup>129</sup> *ibid.*

<sup>130</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>131</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

including high-contrast text, adjustable font sizes, customizable timing settings, and error identification mechanisms, all of which enhance user accessibility and operability.<sup>132</sup>

Best practices advocate for the implementation of logical focus ordering and sequential task presentation, both of which facilitate efficient user engagement with fintech applications.<sup>133</sup> Empirical studies demonstrate that presenting financial processes in a structured, stepwise manner reduces cognitive overload and alleviates barriers associated with complex digital interactions.<sup>134</sup> Furthermore, the integration of auditory outputs for textual content, spelling aids, and predictive word functionalities enhances the accessibility of fintech platforms, thereby enabling visually impaired individuals to navigate financial ecosystems with greater autonomy.<sup>135</sup>

### **2.3.7 Real-Time Text (RTT) Accessibility and Speech Output Integration**

Scholarly research highlights the significance of real-time text (RTT) accessibility in facilitating effective digital communication for visually impaired users.<sup>136</sup> Academics recommend the implementation of distinguishable RTT displays to enhance clarity in textual interactions, supplemented by customizable formatting options that enable users to adjust text visibility according to their individual accessibility preferences.<sup>137</sup>

Empirical analyses underscore the importance of speech output integration in improving financial accessibility, particularly in contexts requiring alternative descriptions for non-textual elements, such as images and graphical representations.<sup>138</sup> Best practices suggest aligning speech output functionality with user interactions and transitions, ensuring real-time auditory feedback for fintech users reliant upon non-visual access mechanisms.

### **2.3.8 Transactional Outputs and Privacy Considerations**

Guaranteeing equitable access to transactional outputs—such as receipts, tickets, and financial confirmation records—necessitates the implementation of accessibility-driven speech output mechanisms.<sup>139</sup> Research findings emphasize that fintech platforms should incorporate auditory

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<sup>132</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>133</sup> *ibid.*

<sup>134</sup> *ibid.*

<sup>135</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>136</sup> ZainEldin, Hanaa, Nadiah A. Baghdadi, Samah A. Gamel, Mansourah Aljohani, Fatma M. Talaat, Amer Malki, Mahmoud Badawy, and Mostafa Elhosseini. "Active convolutional neural networks sign language (ActiveCNN-SL) framework: a paradigm shift in deaf-mute communication." *Artificial Intelligence Review* 57, no. 6 (2024): 162.

<sup>137</sup> *ibid.*

<sup>138</sup> Gujar, Praveen. "Enhancing Software Accessibility for Use Cases." In *Data Usability in the Enterprise: How Usability Leads to Optimal Digital Experiences*, pp. 47-87. Berkeley, CA: Apress, 2025.

<sup>139</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

feedback systems for essential transaction details, thereby enabling visually impaired users to independently verify financial transactions.<sup>140</sup>

Additionally, best practices advocate for stringent privacy protections within accessibility features, ensuring that sensitive financial data is transmitted securely through private listening capabilities, masked character protections, and controlled speech output functionalities.<sup>141</sup> Scholarly literature underscores the critical role of safeguarding user privacy within accessibility frameworks, as robust privacy measures foster user confidence and encourage equitable participation in digital financial ecosystems.<sup>142</sup>

The convergence of accessibility features and technological innovation within financial technology is essential for advancing financial inclusion among visually impaired individuals. Academic discourse supports the integration of screen-reader-compatible interfaces, AI-driven voice assistants, biometric authentication protocols, audio-enhanced transaction verification mechanisms, and inclusive UX design principles as foundational components of fintech accessibility. By aligning financial technology advancements with best practices in digital accessibility, fintech providers can contribute to the establishment of a more equitable financial landscape, ensuring the full participation of visually impaired individuals in digital economic activities. This discussion lays the groundwork for further examination of regulatory frameworks and institutional policies governing fintech accessibility, underscoring the imperative of continuous improvements in inclusive financial service delivery.

## 2.4 Hardware

Hardware infrastructure is instrumental in facilitating financial transactions, ensuring cybersecurity, and enhancing accessibility within the fintech domain.<sup>143</sup> The design and development of fintech hardware must incorporate features that accommodate blind users, thereby fostering greater inclusivity in financial participation. Scholarly literature emphasizes the necessity for financial technology platforms to implement input and output interfaces that comply with industry-standard, non-proprietary formats to maximize compatibility with assistive technologies and optimize usability for individuals with visual impairments.<sup>144</sup> This requirement extends to both

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<sup>140</sup> *ibid.*

<sup>141</sup> *ibid.*

<sup>142</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>143</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>144</sup> Ilyasa, Ilham, Rahmat Fauzi, and Sinung Suakanto. "Creating a Mobile E-Wallet for Visual Impairment Using an Inclusive Design Approach: A Case Study in Bandung, Indonesia." In *International Conference on Enterprise and Industrial Systems (ICOEINS 2023)*, pp. 4-15. Atlantis Press, 2023.

physical and wireless interfaces, with widely recognized standards such as USB and Bluetooth playing a pivotal role in ensuring seamless interoperability between financial hardware and accessibility tools.<sup>145</sup>

To further augment usability, fintech hardware designed for visually impaired users must integrate speech output functionalities that provide real-time auditory feedback during financial interactions.<sup>146</sup> Best practices in accessible hardware design advocate for the inclusion of adjustable speech output volume controls, ensuring that users can engage optimally with financial systems.<sup>147</sup> The implementation of these features not only facilitates autonomous financial transactions but also enhances security by allowing users to audibly verify transaction details prior to finalization.

Several fintech hardware solutions have been identified as significantly advancing accessibility, including Braille-enabled payment terminals, speech-enabled ATMs, and tactile keypad card readers.<sup>148</sup> These solutions empower visually impaired individuals to engage with financial services independently, reducing reliance on external assistance. Braille-integrated payment terminals support secure transaction processing, speech-enabled ATMs provide verbal navigation prompts to facilitate banking tasks, and tactile keypad card readers incorporate physical markers that enhance secure data entry for financial transactions.<sup>149</sup>

Moreover, ensuring accessibility in transactional outputs—such as receipts and tickets—remains a critical component of fintech hardware design.<sup>150</sup> Academic research advocates for the integration of speech output capabilities in transactional devices, enabling users to receive auditory confirmations of their transaction details for verification purposes.<sup>151</sup> Additionally, privacy considerations must be embedded within speech-enabled fintech hardware, ensuring that users have access to secure options such as private auditory confirmations through personal headsets and controlled speech output settings for sensitive financial data.<sup>152</sup>

By embedding accessibility-driven hardware features within fintech infrastructure, financial institutions and technology providers can significantly enhance the usability and inclusivity of digital financial services for blind users. The deliberate adoption of these practices serves as a

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<sup>145</sup> *ibid.*

<sup>146</sup> *ibid.*

<sup>147</sup> Ilyasa, Ilham, Rahmat Fauzi, and Sinung Suakanto. "Creating a Mobile E-Wallet for Visual Impairment Using an Inclusive Design Approach: A Case Study in Bandung, Indonesia." In *International Conference on Enterprise and Industrial Systems (ICOEINS 2023)*, pp. 4-15. Atlantis Press, 2023.

<sup>148</sup> Okonji, Patrick Emeka, and Darlington Chukwunalu Ogwezy. "Financial inclusion: perceptions of visually impaired older Nigerians." *Journal of Enabling Technologies* 12, no. 1 (2018): 10-21.

<sup>149</sup> *ibid.*

<sup>150</sup> *ibid.*

<sup>151</sup> *ibid.*

<sup>152</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

catalyst for achieving financial equity, ensuring that visually impaired individuals can navigate, transact, and engage with financial ecosystems autonomously and securely.

## **2.5 Fundamental Principles of Fintech Accessibility for Visually Impaired Individuals**

Ensuring fintech accessibility for visually impaired individuals necessitates adherence to four key principles that underpin inclusive financial service delivery. These four principles are known by the acronym POUR for perceivable, operable, understandable and robust.<sup>153</sup> POUR is a way of approaching ICT/digital content and platforms accessibility by breaking it down into these four main aspects. Many of the technology challenges faced by people with disabilities can be described using one of the POUR principles. These principles provide a structured approach to designing financial technology that accommodates diverse user needs, fostering a more equitable digital financial ecosystem. By critically examining these principles, this section highlights their role in shaping accessible fintech solutions and evaluates the challenges that continue to hinder full accessibility.

### **2.5.1: Perceivable**

Perceptibility refers to the ability of fintech platforms to present financial information in a manner that is perceivable by all users, particularly those with visual impairments. This principle requires that digital financial services offer alternative modes of information presentation, ensuring that visually impaired users can access content through auditory, tactile, or assistive technologies.

#### **2.5.1.1 Challenges Under Perceivability in Fintech**

Despite technological advancements, blind users continue to face significant barriers in interacting with financial applications due to inaccessible design features. These challenges often limit their ability to autonomously manage their finances, reinforcing the need for intentional accessibility-driven fintech solutions.

**Non-Text Content Without Alternative Descriptions:** Many financial applications contain icons, graphics, and interactive elements that lack alternative text, making them invisible to screen readers and other assistive technologies.<sup>154</sup> Blind users struggle to interpret such content, restricting their ability to execute transactions effectively.

**Inaccessible Charts and Graphs for Financial Data Representation:** Fintech platforms often utilize visual charts and graphs to present financial data, posing obstacles for users who rely on auditory

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<sup>153</sup> Fernando HF Botelho, 'Accessibility to Digital Technology: Virtual Barriers, Real Opportunities' (2021) 33 *Assistive Technology* 27 <<https://doi.org/10.1080/10400435.2021.1945705>>.

<sup>154</sup> Kumar, Shashank, Jeevitha Shree DV, and Pradipta Biswas. "Comparing ten WCAG tools for accessibility evaluation of websites." *Technology and Disability* 33, no. 3 (2021): 163-185.

or tactile accessibility methods. Without alternative descriptions or accessible data formats, blind users are excluded from critical financial insights.<sup>155</sup>

**Complex Navigation Structures:** Poorly structured web and mobile platforms introduce navigation inefficiencies, making it difficult for visually impaired individuals to locate essential financial tools.<sup>156</sup> Best practices in accessible UX recommend streamlining navigation pathways, using proper heading structures, and incorporating intuitive wayfinding markers.<sup>157</sup>

**Inaccessible Captchas and Form Field Labels:** Many fintech platforms employ visual CAPTCHA challenges for authentication, which prevent blind users from verifying their identity independently.<sup>158</sup> Additionally, poorly labeled form fields complicate user interaction, leading to errors in transaction execution.<sup>159</sup>

**Inaccessible Account Statements and Transaction History:** Financial records are frequently presented in untagged PDFs or static image-based formats, rendering them incompatible with screen readers.<sup>160</sup> Blind users require machine-readable document structures to access and interpret their financial data seamlessly.

**Poor Colour Contrast and Low Visibility Enhancements:** While not all blind users rely exclusively on non-visual accessibility features, those with low vision encounter difficulties in reading content with insufficient colour contrast, unoptimized text sizes, or distracting background elements.<sup>161</sup>

Legal precedent has reinforced the significance of perceivable digital accessibility in fintech. In *Jodhan v. Canada (Attorney General), Donna Jodhan*,<sup>162</sup> a blind individual, successfully challenged the Canadian government for failing to make their websites perceivable to users with visual impairments. This case emphasized the importance of presenting information in accessible formats, such as alternative text descriptions and compatibility with screen readers, aligning with the Perceivable principle. Similarly in *National Federation of the Blind (NFB) v. Target*

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<sup>155</sup> Fayyad, Mahmoud, and Abdel Raouf Al-Sinnawi. "Challenges of achieving financial inclusion for individuals with visual impairments." *Heliyon* 10, no. 16 (2024).

<sup>156</sup> Fayyad, Mahmoud, and Abdel Raouf Al-Sinnawi. "Challenges of achieving financial inclusion for individuals with visual impairments." *Heliyon* 10, no. 16 (2024).

<sup>157</sup> Okonji, Patrick Emeka, and Darlington Chukwunalu Ogwezzy. "Financial inclusion: perceptions of visually impaired older Nigerians." *Journal of Enabling Technologies* 12, no. 1 (2018): 10-21.

<sup>158</sup> Goundar, Sam, and Milind Sathye. "Exploring access to financial services by visually impaired people." *Journal of Risk and Financial Management* 16, no. 2 (2023): 96.

<sup>159</sup> Goundar, Sam, and Milind Sathye. "Exploring access to financial services by visually impaired people." *Journal of Risk and Financial Management* 16, no. 2 (2023): 96.

<sup>160</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>161</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>162</sup> *Jodhan v Canada (Attorney General)* [2012] 431 NR 144 (FCA); 2010 FC 1197.

*Corporation*,<sup>163</sup> demonstrated that inaccessible websites without alternative text for non-visual content posed significant barriers for blind users. The ruling highlighted the need for perceivable content, ensuring digital interfaces accommodate assistive technologies.

### 2.5.1.2 Solutions Under Perceivability in Fintech

To ensure that fintech platforms uphold the Perceivable principle, specific solutions must be integrated to overcome accessibility barriers and facilitate inclusive financial engagement.

**Alternative Text for Non-Textual Elements:** Providing descriptive alternative text for icons, graphics, and interactive content ensures screen readers can effectively relay information to blind users. This simple yet essential solution removes barriers to digital financial navigation.<sup>164</sup>

**Accessible Data Representation:** Fintech providers should adopt audio descriptions, dynamically generated tactile graphics, and structured data formats to present financial charts and reports in a way that blind users can interpret.<sup>165</sup> These alternative representations facilitate independent financial decision-making.

**Simplified Navigation Structures:** Streamlining fintech platforms by introducing intuitive navigation features, structured headings, and assistive markers enables blind users to efficiently locate and access financial tools without excessive cognitive load.<sup>166</sup>

**Accessible Authentication Mechanisms:** Fintech providers must replace visual captchas with audio captchas or text-based authentication methods, ensuring independent and secure login processes for blind users. Additionally, haptic feedback for form fields can confirm input accuracy, reducing transaction errors.<sup>167</sup>

**Accessible Document Formats:** Transaction history, account statements, and financial records must be available in screen-reader-compatible formats such as tagged PDFs, HTML documents, or

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<sup>163</sup> *National Federation of the Blind (NFB) v Target Corporation* 452 F Supp 2d 946 (ND Cal 2006).

<sup>164</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>165</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>166</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>167</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

machine-readable file structures.<sup>168</sup> Providing multiple accessible options ensures that users can engage with financial data in a format tailored to their needs.

By prioritizing perceivability, fintech platforms can transform accessibility into a standard practice rather than an optional feature, ensuring that blind users enjoy equitable financial participation without encountering unnecessary obstacles.

### **2.5.2 Operability in Fintech Accessibility**

Operability ensures that fintech platforms are designed for effortless user interaction, enabling visually impaired individuals to navigate and complete financial transactions independently. This principal advocates for keyboard navigability, gesture-based controls, voice-activated banking, and biometric authentication to eliminate barriers to access.

#### **2.5.2.1 Challenges Under Operability in Fintech**

visually impaired users face significant barriers when engaging with fintech services. These obstacles often restrict their ability to navigate financial platforms autonomously, highlighting the need for deliberate design modifications that enhance operability.<sup>169</sup>

**Lack of Keyboard Navigation Support:** Blind users heavily rely on keyboard shortcuts for navigation, necessitating financial platforms that are fully functional without mouse-based input.<sup>170</sup> Many fintech applications fail to accommodate keyboard navigation, creating interaction gaps that prevent users from efficiently managing financial tasks.

**Disorganized Focus Indicators:** Effective navigation for blind users requires logical and structured focus indicators, ensuring that users can move through interface elements sequentially and intuitively.<sup>171</sup> Inconsistent focus management disrupts workflow and complicates transaction execution.

**Limited Responsive Design Features:** Blind users access fintech platforms across varied screen sizes and resolutions, requiring interfaces that automatically adjust to different device formats.<sup>172</sup>

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<sup>168</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>169</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>170</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>171</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>172</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

Poor responsiveness undermines accessibility, preventing users from seamlessly interacting with financial applications on mobile, desktop, and other assistive devices.<sup>173</sup>

**Complex and Confusing Navigation Pathways:** Many fintech platforms lack streamlined navigation frameworks, forcing blind users to rely on inefficient workarounds to locate financial tools.<sup>174</sup> Best practices advocate for hierarchically structured navigation elements, skip links, and intuitive landmarks that simplify user interaction.<sup>175</sup>

**Inaccessible Form Controls and Interactive Elements:** Blind users encounter challenges when completing transactions due to poorly labeled form fields, inaccessible interactive components, and missing feedback confirmations.<sup>176</sup> These usability failures increase the likelihood of transactional errors, affecting user confidence.

The significance of operability has been reinforced in legal precedent, including *Robles v. Domino's Pizza*,<sup>177</sup> where courts ruled that digital platforms must be navigable via keyboard shortcuts and screen reader compatibility rather than relying solely on visual interaction methods. Similarly, in *Maguire v. Sydney Organizing Committee for the Olympic Games*,<sup>178</sup> rulings emphasized that web-based financial services must offer full operability for users with disabilities, ensuring unrestricted navigation.

### **2.5.2.2 Solutions Under Operability in Fintech**

To ensure fintech platforms uphold the Operable principle, specific solutions must be integrated to overcome navigation barriers and facilitate independent financial engagement.

**Keyboard Accessibility:** Fintech providers must ensure that all interactive elements, navigation menus, and transaction processes can be executed entirely through keyboard shortcuts, removing reliance on mouse-based navigation.<sup>179</sup>

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<sup>173</sup> *ibid.*

<sup>174</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>175</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>176</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>177</sup> *Robles v Domino's Pizza*, LLC 913 F 3d 898 (9th Cir 2019).

<sup>178</sup> *Maguire v Sydney Organising Committee for the Olympic Games* HREOC Decision H99/115 (1999).

<sup>179</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

Structured Focus Management: Platforms should incorporate clear, sequential focus indicators that allow blind users to progress logically through financial interfaces. Implementing logical tab order and visible focus outlines enhances usability.<sup>180</sup>

Responsive Design Adaptation: Fintech platforms must automatically adjust screen layouts, font sizes, and navigation elements to accommodate different device types, ensuring seamless interaction across desktops, mobile apps, and assistive devices.<sup>181</sup>

Simplified Navigation Frameworks: Implementing intuitive headings, skip navigation links, and landmark regions enables blind users to efficiently locate financial tools without unnecessary complexity. Fintech applications should ensure hierarchical organization of menus and user workflows.<sup>182</sup>

Accessible Form Controls and Interactive Elements: Ensuring properly labeled form fields, audio-based confirmation mechanisms, and tactile feedback improves user confidence in executing financial transactions independently.<sup>183</sup>

### **2.5.3 Understandability in Fintech Accessibility**

Ensuring that fintech platforms remain understandable for visually impaired users aligns with the Understandable principle, which requires that information and user interface operations be easily readable and comprehensible. This principle emphasizes that financial content and interactions must be presented in a way that does not exceed users' cognitive abilities, ensuring that blind individuals can effectively navigate digital financial ecosystems.<sup>184</sup> By prioritizing understandability, fintech providers empower blind users to engage with confidence, fostering an inclusive digital environment where financial information is accessible and interactions are intuitive.<sup>185</sup>

#### **2.5.3.1 Challenges Under Understandability in Fintech**

Despite advances in accessibility, visually impaired users continue to encounter significant barriers in fintech due to unintuitive interface designs, complex forms, inconsistent navigation patterns,

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<sup>180</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>181</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>182</sup> Muzaffar, Junaid, and Noman Mazher. "Web Accessibility Standards: Implementing WCAG Guidelines for Inclusive Design." *Pioneer Research Journal of Computing Science* 1, no. 3 (2024): 62-70.

<sup>183</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>184</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>185</sup> *ibid.*

and unclear content presentation. These challenges can impede financial participation and hinder independent transaction execution.

**Unreadable and Poorly Structured Content:** Blind users rely heavily on-screen readers and assistive technologies, but unstructured or unlabeled digital content restricts their ability to comprehend and navigate platforms effectively.<sup>186</sup> Financial documents and website interfaces must be properly formatted and structured to ensure readability through assistive technology.<sup>187</sup>

**Complex and Unlabeled Forms:** Fintech platforms often require users to input various types of financial and personal information, yet many of these forms lack clear instructions or proper labels.<sup>188</sup> Poorly designed forms increase errors and create difficulties for blind users attempting to complete transactions autonomously.

**Technical Language and Jargon:** Many fintech applications use complex financial terminology that may be inaccessible to visually impaired users without additional explanations.<sup>189</sup> Best practices advocate for presenting financial content in plain language, reducing jargon, and providing user-friendly definitions.<sup>190</sup>

**Inconsistent Navigation and Layouts:** Digital financial platforms frequently suffer from inconsistent navigation patterns and unpredictable interface layouts, which confuse blind users who rely on screen readers and familiarity with design structures.<sup>191</sup> Consistency in interface design ensures smoother navigation and prevents unnecessary cognitive strain.

Legal precedent underscores the significance of understandability in fintech accessibility. In *Gil v. Winn-Dixie Stores, Inc.*,<sup>192</sup> courts ruled that inconsistent navigation structures and missing labels impeded blind users' ability to comprehend and engage with digital platforms. The ruling stressed the need for predictable and structured design frameworks to facilitate accessibility.

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<sup>186</sup> Muuo, Sheru W., Bhavisha Virendrakumar, George Okello, Moses Chege, Vibian Angwenyi, Kenneth Gichohi, Hillary Kibet et al. "Financial inclusion for persons with disabilities: Experiences of providers and users of financial products and services in Kenya." *PloS one* 20, no. 4 (2025): e0321493.

<sup>187</sup> Muuo, Sheru W., Bhavisha Virendrakumar, George Okello, Moses Chege, Vibian Angwenyi, Kenneth Gichohi, Hillary Kibet et al. "Financial inclusion for persons with disabilities: Experiences of providers and users of financial products and services in Kenya." *PloS one* 20, no. 4 (2025): e0321493.

<sup>188</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>189</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>190</sup> *ibid.*

<sup>191</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>192</sup> *Gil v Winn-Dixie Stores, Inc* No 17-13467 (11th Cir 2021).

### 2.5.3.2 Solutions Under Understandability in Fintech

To align fintech accessibility with the Understandable principle, platforms must integrate solutions that ensure financial information and operations remain clear and intuitive.

**Plain Language and Readability Enhancements:** Fintech providers must simplify language, avoid unnecessarily complex sentence structures, and use clear headings to guide visually impaired users through financial content efficiently.

**Consistent Navigation and Predictable Design:** Standardized navigation layouts, properly labeled menus, and familiar interaction patterns improve usability and comprehension for blind users, allowing them to navigate financial platforms without unnecessary complications.

**Input Assistance and Error Detection:** Fintech applications should provide descriptive error messages, autocomplete suggestions, and properly labeled form fields to assist blind users in completing transactions accurately.<sup>193</sup>

**Reversibility and Transaction Confirmation Mechanisms:** Platforms facilitating financial transactions must ensure users can review, confirm, and correct information before finalizing submissions, allowing blind users to confidently manage their finances.<sup>194</sup>

**Auto-Populated Fields for Redundant Entry Reduction:** Minimizing repetitive data entry through auto-fill functionalities reduces cognitive load for blind users, ensuring more efficient interactions with fintech applications.<sup>195</sup>

**Accessible Authentication Mechanisms:** Implementing alternative authentication methods that do not rely on complex cognitive tests ensures that blind users can securely access financial services without encountering usability obstacles.<sup>196</sup>

The Understandable principle ensures that fintech accessibility extends beyond structural compatibility with assistive technologies by prioritizing clear content presentation and intuitive user interactions. By integrating solutions such as plain language financial descriptions, standardized design patterns, input assistance, and accessible authentication alternatives, fintech providers actively enhance financial inclusivity for blind users. These considerations foster an equitable digital financial ecosystem where visually impaired individuals can engage confidently with financial technologies and independently manage their financial affairs.

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<sup>193</sup> Kumar, Shashank, Jeevitha Shree DV, and Pradipta Biswas. "Comparing ten WCAG tools for accessibility evaluation of websites." *Technology and Disability* 33, no. 3 (2021): 163-185.

<sup>194</sup> Kumar, Shashank, Jeevitha Shree DV, and Pradipta Biswas. "Comparing ten WCAG tools for accessibility evaluation of websites." *Technology and Disability* 33, no. 3 (2021): 163-185.

<sup>195</sup> Kumar, Shashank, Jeevitha Shree DV, and Pradipta Biswas. "Comparing ten WCAG tools for accessibility evaluation of websites." *Technology and Disability* 33, no. 3 (2021): 163-185.

<sup>196</sup> Kumar, Shashank, Jeevitha Shree DV, and Pradipta Biswas. "Comparing ten WCAG tools for accessibility evaluation of websites." *Technology and Disability* 33, no. 3 (2021): 163-185.

## 2.5.4 Robustness in Fintech Accessibility

Ensuring fintech platforms remain functional and compatible with evolving technologies aligns with the Robust principle, which emphasizes the need for digital financial services to be resilient, adaptable, and accessible across a wide range of user agents, including assistive technologies. Robust accessibility ensures that financial platforms continue to serve visually impaired users effectively, even as digital environments and technological requirements evolve.<sup>197</sup>

### 2.5.4.1 Challenges Under Robustness in Fintech

as noted in the above discussion, despite advancements in accessible digital finance, blind users often experience compatibility issues that restrict their ability to interact with fintech platforms effectively. These challenges stem from insufficient support for assistive technologies, rigid platform requirements, and inaccessible document formats.<sup>198</sup>

**Limited Assistive Technology Compatibility:** Fintech applications must support multiple screen readers, Braille displays, and auditory-based navigation tools. Failure to accommodate diverse assistive technologies restricts access for visually impaired users who rely on specialized tools.<sup>199</sup>

**Rigid Software and Browser Requirements:** Some fintech platforms require users to operate on specific browser versions or software configurations, which may not be fully compatible with assistive technologies used by blind individuals. Limited flexibility prevents users from freely selecting the technology best suited to their needs.<sup>200</sup>

**Inaccessible Financial Document Formats:** Some fintech platforms deliver financial statements, invoices, and reports in inaccessible formats that fail to integrate with screen readers, preventing blind users from interpreting their financial records effectively.<sup>201</sup>

Legal precedent reinforces the significance of robustness in digital accessibility. Cases such as *Robles v. Domino's Pizza* and *National Federation of the Blind (NFB) v. Target Corporation*, where compatibility with assistive technologies was a key issue. In both cases, the courts highlighted the need for websites and digital platforms to remain accessible to screen readers and other assistive devices, ensuring that blind users can reliably interpret and interact with content.

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<sup>197</sup> Mir Hamzah, Auni Syamimi, Nurain Adibah Amir, Nur Rabiatal Adawiyah Amir Ruddin, Nurain Najihah Mohd Zaki, Muhammad Irsyad Norhaidel, and Aemillyawaty Abas. "Voxtech: empowering fintech accessibility for visually impaired." (2024): 331-335.

<sup>198</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>199</sup> Gafoor, Abdul, and S. Amilan. "Fintech adoption and financial well-being of persons with disabilities: the mediating role of financial access, financial knowledge and financial behaviour." *International Journal of Social Economics* 51, no. 11 (2024): 1388-1401.

<sup>200</sup> *ibid.*

<sup>201</sup> *ibid.*

These rulings underscored the importance of designing digital interfaces that are resilient and adaptable to evolving technologies, aligning with the Robust principle to foster inclusivity and long-term accessibility.

#### **2.5.4.2 Solutions Under Robustness in Fintech**

To enhance accessibility and ensure fintech platforms remain resilient, developers must implement solutions that support evolving assistive technologies while maintaining flexibility across digital interfaces.

**Universal Assistive Technology Compatibility:** Fintech providers must ensure full compatibility with diverse screen readers, Braille devices, and voice-based navigation systems, eliminating accessibility limitations stemming from incompatibility with assistive tools.<sup>202</sup>

**Adaptive Software and Browser Support:** Financial platforms should function effectively across multiple browsers and operating systems, ensuring blind users can access services regardless of their preferred technological setup.<sup>203</sup>

**Accessible Document Formats:** Ensuring financial statements and transaction records are formatted using machine-readable standards such as tagged PDFs and HTML guarantees seamless interpretation through assistive technologies.<sup>204</sup>

**Semantic Coding and Web Standards Compliance:** Fintech platforms should adhere to accessibility-oriented coding practices, including structured HTML markup, alternative text descriptions, and scalable design elements, fostering long-term accessibility.<sup>205</sup>

The Robust principle ensures fintech accessibility remains sustainable by promoting compatibility with evolving technologies and user preferences. By implementing solutions such as universal assistive technology support, flexible browser requirements, accessible document formats, and semantic coding standards, fintech providers safeguard accessibility for blind users. Future-proofing digital financial services through robustness contributes to an inclusive financial environment where visually impaired individuals can navigate platforms confidently, regardless of technological shifts.

## **2.6 Conclusion**

This chapter has provided a comprehensive examination of the interplay between financial inclusion and fintech accessibility for visually impaired individuals, critically assessing the challenges, technological advancements, and foundational principles that define an inclusive financial landscape. Beginning with an exploration of financial inclusion within the fintech

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<sup>202</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>203</sup> *ibid.*

<sup>204</sup> *ibid.*

<sup>205</sup> *ibid.*

ecosystem, the discussion underscored the transformative potential of digital financial services in bridging systemic accessibility gaps. It established that while fintech has emerged as a powerful tool for promoting financial autonomy, persistent barriers—ranging from design limitations to regulatory deficiencies—continue to obstruct full participation for blind users.

The chapter then examined key accessibility features and technological advancements that enhance usability, evaluating the effectiveness of innovations such as screen readers, voice-assisted banking, biometric authentication, and accessible transaction confirmations. These solutions, while promising, must be systematically integrated across fintech platforms to ensure that financial services remain equitable, user-friendly, and responsive to the unique needs of visually impaired individuals.

To provide a structured approach to fintech accessibility, this chapter further dissected four fundamental principles: Perceptibility, Operability, Understandability, and Robustness. By applying these principles, fintech providers can design services that cater to the specific needs of blind users, ensuring that financial interactions are perceivable through alternative sensory modalities, fully operable without reliance on visual navigation, understandable in both content and interface design, and robust enough to remain compatible with evolving assistive technologies. The discussion highlighted that these principles are not merely theoretical guidelines but practical imperatives that must be embedded in fintech development processes to foster truly inclusive financial ecosystems.

Despite advancements in financial technology, systemic barriers continue to obstruct accessibility, necessitating a concerted effort among fintech developers, policymakers, financial institutions, and accessibility advocates. Persistent challenges such as inconsistent design practices, inaccessible security features, limited digital literacy programs, and regulatory gaps underscore the urgency of refining accessibility frameworks and reinforcing financial inclusion mandates.

The insights presented in this chapter lay the groundwork for the critical examination of legal and regulatory frameworks in the next chapter. By identifying accessibility shortcomings and proposing structured solutions, this discussion advances the broader discourse on digital financial equity, ensuring that fintech continues to evolve as an instrument for inclusion rather than exclusion. The imperative now lies in transforming these accessibility principles into actionable policy measures, fostering a fintech landscape where visually impaired individuals can confidently navigate and participate in financial services without encountering unnecessary barriers.

## **Chapter 3: The Legal and Regulatory Framework Governing Fintech Accessibility in Kenya**

### **3.1 Introduction**

The preceding chapter discussed \*The Intersection Between FinTech and Financial Inclusion, outlining what fintech accessibility entails. This chapter is crucial as it builds upon that foundational understanding by assessing whether the Kenyan legal and regulatory framework promotes fintech accessibility as examined in Chapter 2. While Chapter 2 provided a broad perspective on fintech accessibility and its significance in advancing financial inclusion, Chapter 3 takes a deeper dive into the regulatory landscape, exploring both sector-specific and cross-cutting laws that govern fintech accessibility for blind users in Kenya.

This chapter delves into how various regulatory bodies and legal provisions interact to oversee fintech operations, ensuring inclusivity and accessibility for visually impaired users. By analyzing the strengths, weaknesses, and gaps in the legal and institutional frameworks, Chapter 3 provides a comprehensive basis for understanding the systemic challenges and opportunities within the Kenyan fintech ecosystem. This analysis is indispensable for framing subsequent recommendations aimed at enhancing financial inclusion for blind users, thereby extending the discourse beyond the scope of Chapter 2.

Section 3.2 delves into the legal landscape concerning persons with disabilities in Kenya, contextualizing it within the scope of this study. This section is further divided into two parts: \*Part I\* conducts a meticulous examination of sector-specific laws regulating fintech accessibility, while \*Part II\* scrutinizes fintech services and the various laws governing them, further discussing their efficacy.

Subsequently, in \*Section 3.3\*, attention is directed toward cross-cutting laws in fintech, evaluating their adequacy in addressing the accessibility needs of blind users. This section aims to uncover the strengths and weaknesses inherent in the existing legal framework.

Finally, \*Section 3.4\* synthesizes the findings from Sections 3.2 and 3.3, accentuating major deficiencies within the laws that demand redress. Through this comprehensive analysis, the chapter endeavors to illuminate the lacunae in the legal and institutional apparatus governing fintech accessibility for blind users in Kenya, thereby laying the groundwork for subsequent discussions and recommendations.

### **3.2 Institutional Framework**

Fintech regulation in Kenya is underpinned by a robust institutional framework designed to ensure integrity, transparency, and inclusivity within the sector. At its helm is the Central Bank of Kenya (CBK), tasked with supervising financial institutions and mandating that all Fintech entities acquire licenses before operating. This regulatory requirement safeguards the market from

unscrupulous players while promoting the credibility of Fintech innovations.<sup>206</sup> Complementing the CBK's oversight is the Capital Markets Authority (CMA), which regulates Fintech companies offering investment products, ensuring adherence to securities laws and safeguarding investors, including participants in peer-to-peer lending platforms.<sup>207</sup> The Communications Authority of Kenya (CAK) plays a critical role in managing mobile network operators that provide mobile money services. As mobile money is a cornerstone of Kenya's financial ecosystem, CAK's oversight guarantees the security, reliability, and accessibility of these services to all users, including marginalized communities.<sup>208</sup>

Additionally, the National Payment Systems Department (NPSD) ensures payment systems are safe, efficient, and transparent, underscoring its importance for e-commerce platforms reliant on seamless transactional frameworks.<sup>209</sup> A notable innovation within Kenya's Fintech landscape is the regulatory sandbox, administered by the CBK. This initiative allows Fintech firms to test novel products in controlled environments, fostering collaboration between innovators and regulators while balancing creativity and compliance.<sup>210</sup> The Insurance Regulatory Authority (IRA) oversees Insurtech operations, ensuring effective management and adherence to industry standards. It mandates licensing for all insurance providers, reinforcing consumer protection and sector accountability.<sup>211</sup>

The Competition Authority and Competition Tribunal, established under the Competition Act, safeguard market fairness by monitoring Fintech firms' conduct, protecting consumers from deceptive practices, and fostering healthy economic competition.<sup>212</sup> Finally, the National Council for Persons with Disabilities (NCPWD) enforces laws supporting inclusivity, advocating for accessibility in Fintech services for persons with disabilities to prevent discrimination and promote equal opportunities.

In summary, the institutional framework governing Fintech in Kenya is multifaceted, with pivotal contributions from regulatory authorities like the CBK, CMA, CAK, NPSD, IRA, and Competition Authority. Together, these institutions shape a dynamic regulatory ecosystem, ensuring technological innovation aligns with principles of security, equity, and inclusion. Subsequent sections will unpack these entities' roles while delving into the specific legal frameworks that define Kenya's Fintech governance.

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<sup>206</sup> <https://www.thecityuk.com/our-work/fintech-in-kenya-towards-an-enhanced-policy-and-regulatory-framework>

<sup>207</sup> <https://www.thecityuk.com/our-work/fintech-in-kenya-towards-an-enhanced-policy-and-regulatory-framework>

<sup>208</sup> 'Fintech-Driven Financial Inclusion and Consumer Protection: Kenya's Case Study - The Platform' <<https://theplatform.co.ke/fintech-driven-financial-inclusion-and-consumer-protection-kenyas-case-study/>> accessed 3 February 2024.

<sup>209</sup> *ibid.*

<sup>210</sup> 'FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK' <<https://www.thecityuk.com/our-work/fintech-in-kenya-towards-an-enhanced-policy-and-regulatory-framework/>> accessed 3 February 2024.

<sup>211</sup> *ibid.*

<sup>212</sup> <https://www.thecityuk.com/our-work/fintech-in-kenya-towards-an-enhanced-policy-and-regulatory-framework>

### 3.3 The Legal Framework

The dynamic nature of the Fintech industry and its overlap across different sectors, leads to a multiplicity in the regulatory framework.<sup>213</sup> Like in many jurisdictions, FinTech regulation in Kenya is implemented through sector-specific financial services regulation as well as general legislation that cuts across various sectors, leading to multiple regulations and regulators across various FinTech activities.<sup>214</sup> A review of the current state of FinTech regulation therefore will involve analysis of the sector specific financial services regulations and some cross-cutting legislation applicable across various sectors.

#### 3.3.1. PART I: Specific Laws Governing Matters Disability and Fintech Accessibility

##### 3.3.1.1 The Constitution of Kenya

The Constitution of Kenya, serving as the bedrock of the legal framework, provides the fundamental principles that underpin the regulation of Fintech. Although not explicitly addressing Fintech, its influence permeates through various provisions crucial to our exploration. Article 10<sup>215</sup> encapsulates the national values and principles, mandating all State organs, officers, and citizens to uphold human dignity, equity, social justice, inclusiveness, equality, human rights, and non-discrimination. These principles, including sustainable development, resonate deeply in the ethical considerations surrounding Fintech accessibility for blind users.

Moreover, Article 54<sup>216</sup> specifically addresses persons with disabilities, affirming their entitlement to reasonable access to public places, transport, and information. The constitutional commitment to the use of Sign language, Braille, or other appropriate means of communication underscores the imperative for inclusivity in technological advancements within the financial landscape.<sup>217</sup> Notably, the right to use communication means such as Braille aligns with the focus on enhancing Fintech accessibility for the visually impaired.

Article 27<sup>218</sup> reinforces the principle of equality, emphasizing equal protection and benefit under the law. Significantly, it prohibits discrimination on any grounds, including disability, meriting fintech providers to ensure their services are not discriminatory. The constitutional mandate for

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<sup>213</sup> FabLab Nairobi, 'University of Nairobi - FabLab' [2017] 2017 2 <<http://fablab.uonbi.ac.ke/>>.

<sup>214</sup> 'Regulatory Challenges Underlying FinTech in Kenya and South Africa' <<https://binghamcentre.biiicl.org/publications/regulatory-challenges-underlying-fintech-in-kenya-and-south-africa>> accessed 8 September 2023.

<sup>215</sup> <https://www.klrc.go.ke/index.php/constitution-of-kenya/108-chapter-two-the-republic/176-10-national-values-and-principles-of-governance>

<sup>216</sup> '54. Persons with Disabilities - Kenya Law Reform Commission (KLRC)' <<https://www.klrc.go.ke/index.php/constitution-of-kenya/113-chapter-four-the-bill-of-rights/part-3-specific-application-of-rights/220-54-persons-with-disabilities>> accessed 19 May 2024.

<sup>217</sup> <https://www.klrc.go.ke/index.php/constitution-of-kenya/108-chapter-two-the-republic/173-7-national-official-and-other-languages>

<sup>218</sup> <https://www.klrc.go.ke/index.php/constitution-of-kenya/112-chapter-four-the-bill-of-rights/part-2-rights-and-fundamental-freedoms/193-27-equality-and-freedom-from-discrimination>

legislative and affirmative action measures, as outlined in Article 27(6),<sup>219</sup> serves as a compelling force to rectify past discriminations and ensure the full realization of rights for individuals, including those with disabilities, and this include in financial inclusion.

As we navigate the legal landscape in pursuit of enhancing financial inclusion, these constitutional provisions lay the foundation for our analysis, guiding us towards an ethical framework that ensures equal and accessible Fintech opportunities for blind users in Kenya.

### **3.3.1.2: Convention on the Rights of Persons with Disabilities (CRPD)**

Kenya ratified the Convention on the Rights of Persons with Disabilities (CRPD) on 19th May 2008 creating an obligation upon Kenya to respect, protect and fulfil the provisions in the Convention.<sup>220</sup> Pursuant to article 2 (6)<sup>221</sup> of the Constitution of Kenya, the Convention forms part of Kenyan law. Article 33(2)<sup>222</sup> of the Convention outlines the responsibilities of State Parties including Kenya to designate an independent mechanism to promote, protect and monitor implementation of the Convention.

In Kenya, the UNCRPD serves as a pivotal framework guiding legislative efforts to enhance accessibility, particularly in the realm of digital technology. To enable persons with disabilities to live independently and participate fully in all aspects of life, Article 9<sup>223</sup> of UNCRPD underscores the imperative of ensuring accessibility for persons with disabilities to enable their independent living and full participation in society. It mandates states to implement measures guaranteeing equal access to physical environments, transportation, information and communication technologies, and other public facilities and services in both urban and rural areas. Such measures involve identifying and removing barriers to accessibility in various domains, including buildings, transportation, and electronic services.

Additionally, states are required to establish minimum standards and guidelines for accessibility, ensure private entities consider accessibility, provide training on accessibility issues, offer signage in Braille and easy-to-understand formats, and facilitate live assistance and intermediaries. Promotion of accessible information technologies, including the internet, and early integration of accessibility considerations in technology development are also emphasized to minimize costs and ensure inclusivity.

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<sup>219</sup> <https://www.klrc.go.ke/index.php/constitution-of-kenya/112-chapter-four-the-bill-of-rights/part-2-rights-and-fundamental-freedoms/193-27-equality-and-freedom-from-discrimination>

<sup>220</sup> <https://www.knchr.org/Our-Work/Research-and-Compliance/Disability>

<sup>221</sup> <https://www.klrc.go.ke/index.php/constitution-of-kenya/106-chapter-one-sovereignty-of-the-people-and-supremacy-of-this-constitution/167-article-2-supremacy-of-this-constitution>

<sup>222</sup> Theresia Degener, '10 Years of Convention on the Rights of Persons With Disabilities' (2017) 35 Netherlands Quarterly of Human Rights 152.

<sup>223</sup> *ibid.*

In response to the mandate set forth in Article 9(2a)<sup>224</sup> of the UNCRPD, Kenya has taken significant strides towards ensuring accessibility for persons with disabilities. Notably, in May 2022, the nation introduced the ICT accessibility standard, Kenya Standard KS 2952-1-2:2022, aimed at harmonizing ICT products and services with the specific needs of individuals with disabilities. This standard serves as a benchmark for minimum accessibility requirements. Moreover, Kenya's 2010 constitution, which integrates key principles of the UNCRPD, including non-discrimination (Article 27), Braille utilization (Article 8), and a dedicated article (Article 54) outlining the rights of persons with disabilities, underscores the country's commitment to inclusivity.

To oversee adherence to UNCRPD provisions, the Kenyan government designated The Kenya National Commission on Human Rights (KNCHR) established under article 59,<sup>225</sup> as an independent oversight body to promote, protect and monitor the implementation of the CRPD. Despite these efforts, the full realization of benefits offered by the CRPD, particularly in fintech, remains hampered by inadequate implementation and enforcement mechanisms, alongside fragmentation within the legal and regulatory framework governing the fintech sector. Moreover, the outdated Persons with Disability Act, enacted prior to the ratification of the UNCRPD, lacks pertinent provisions, necessitating its amendment to adequately address the needs of persons with disabilities.

### **3.3.1.3 The Persons with Disabilities Act**

The Persons with Disabilities Act of 2003 stands as the primary piece of legislation governing matters pertaining to persons with disabilities (PWDs) in Kenya.<sup>226</sup> Passed long before the promulgation of the 2010 Constitution and the ratification of the UNCRPD by Kenya, the Act fails to capture essential provisions crucial for the empowerment and inclusion of PWDs in the digital age. The Act's outdated nature becomes glaringly evident in its limited scope, particularly regarding technology-related matters. Section 40<sup>227</sup> of the Act, for instance, addresses telephone services, mandating the installation of devices for persons with hearing and visual disabilities. However, this provision barely scratches the surface of the profound impact technology, especially fintech, has on the lives of PWDs today.

In contemporary society, technology, particularly fintech, plays an increasingly integral role in daily activities and services. From banking to healthcare, education, and employment, fintech solutions offer unprecedented opportunities for financial inclusion and empowerment. However, the outdated provisions of the Persons with Disabilities Act fail to address the intricate accessibility challenges posed by these digital platforms. While fintech services encompass websites, mobile

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<sup>224</sup> *ibid.*

<sup>225</sup> 'Disability' <<https://www.knchr.org/Our-Work/Research-and-Compliance/Disability>> accessed 19 May 2024.

<sup>226</sup> <https://www.treasury.go.ke/wp-content/uploads/2020/11/Persons-with-Disabilities-Act.pdf>

<sup>227</sup> Government of Kenya, 'Persons with Disabilities Act' 60 <[www.kenyalaw.org](http://www.kenyalaw.org)>.

applications, digital payment systems, and automated customer service channels, the Act's limited focus on physical accessibility<sup>228</sup> proves inadequate in ensuring equitable access for PWDs in the digital realm. The Act's failure to anticipate the rapid evolution of technology and its transformative potential in enhancing the lives of PWDs underscores the urgent need for legislative reforms to address the complexities of fintech accessibility comprehensively.

#### 3.3.1.4 Web Content Accessibility Guidelines (WCAG)

The Web Content Accessibility Guidelines (WCAG) serve as the global standard for ensuring digital accessibility, particularly for individuals with disabilities. Developed by the World Wide Web Consortium (W3C), WCAG provides a structured framework for evaluating and implementing accessibility features in web-based platforms, including fintech services.<sup>229</sup> The guidelines are built upon four foundational principles: perceivable, operable, understandable, and robust (POUR), which collectively ensure that digital content is accessible to all users, regardless of their physical or cognitive abilities.<sup>230</sup>

Perceivability within WCAG mandates that all users, including those who are blind or visually impaired, must be able to perceive the information presented on a website. This principle necessitates the inclusion of text alternatives for non-text content, such as images, videos, and graphical elements, ensuring that screen readers can interpret and convey the information effectively.<sup>231</sup> Additionally, WCAG emphasizes the importance of adaptable content that can be presented in different ways without losing meaning, such as through high-contrast text, resizable fonts, and alternative colour schemes.<sup>232</sup>

Operability focuses on ensuring that users can navigate and interact with digital content without encountering barriers. This principle requires that all functionalities be accessible via a keyboard, as many users with disabilities rely on keyboard navigation rather than a mouse. Moreover, WCAG stipulates that users must be given sufficient time to read and interact with content, preventing scenarios where time-sensitive actions hinder accessibility.<sup>233</sup> The guidelines also address the

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<sup>228</sup> *ibid.*

<sup>229</sup> Kiruki, Beatrice Wamaita, and Stephen Mudogo Mutula. "Accessibility and usability of library websites to students with visual and physical disabilities in public universities in Kenya." *International Journal of Knowledge Content Development & Technology* 11, no. 2 (2021): 55-75.

<sup>230</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>231</sup> *ibid.*

<sup>232</sup> Sikder, Abu Sayed. "The Evolution of Web Accessibility Guidelines: A Comparative Analysis of WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web.: WCAG 2.0 and WCAG 3.0 in Ensuring Inclusivity on the Web." *International Journal of Imminent Science & Technology*. 1, no. 1 (2023): 170-185.

<sup>233</sup> *ibid.*

importance of avoiding content that could trigger seizures or physical discomfort, such as flashing elements or rapidly changing visuals.<sup>234</sup>

Understandability within WCAG ensures that digital content is presented in a clear and predictable manner. This principle mandates that text be readable and comprehensible, avoiding overly complex language or ambiguous phrasing.<sup>235</sup> Websites must also operate in a predictable fashion, with consistent navigation structures and user interface elements that do not change unexpectedly. Additionally, WCAG requires that users be provided with assistance in avoiding and correcting errors, such as through clear error messages and accessible form validation mechanisms.<sup>236</sup>

Robustness is the final principle, ensuring that digital content remains compatible with current and future assistive technologies. This principle requires that websites and applications be developed using standardized coding practices that facilitate interoperability with screen readers, voice recognition software, and other accessibility tools.<sup>237</sup> WCAG also emphasizes the importance of maintaining compatibility across different devices and browsers, ensuring that accessibility features remain functional regardless of technological advancements.<sup>238</sup>

### **3.3.1.5 Kenya Standard KS 2952-1-2:2022**

The Kenya Standard KS 2952-1-2:2022 establishes essential accessibility requirements for ICT products and services in Kenya, ensuring inclusivity for persons with disabilities, particularly visually impaired users who rely on assistive technologies to engage with digital platforms.<sup>239</sup> Developed by the Kenya Bureau of Standards (KEBS), this framework provides structured guidelines that address web accessibility, software usability, hardware design, and regulatory compliance, making digital financial services more accessible to all users.<sup>240</sup>

Its foundational principles ensure that ICT products and services are designed to accommodate diverse user needs rather than requiring modifications after development. The standard is fundamentally grounded in the four accessibility principles of Perceivable, Operable, Understandable, and Robust (POUR), which serve as the foundation for ensuring inclusivity in digital platforms.<sup>241</sup> By adhering to these principles, the standard ensures that fintech services and

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<sup>234</sup> *ibid.*

<sup>235</sup> Muzaffar, Junaid, and Noman Mazher. "Web Accessibility Standards: Implementing WCAG Guidelines for Inclusive Design." *Pioneer Research Journal of Computing Science* 1, no. 3 (2024): 62-70.

<sup>236</sup> Muzaffar, Junaid, and Noman Mazher. "Web Accessibility Standards: Implementing WCAG Guidelines for Inclusive Design." *Pioneer Research Journal of Computing Science* 1, no. 3 (2024): 62-70.

<sup>237</sup> Shah, Hardik. "Enhancing Web Accessibility—Navigating the Upgrade of Design Systems from WCAG 2.0 to WCAG 2.1." *International Journal of Web & Semantic Technology* 15, no. 1 (2024): 16.

<sup>238</sup> *ibid.*

<sup>239</sup> [https://inable.org/wp-content/uploads/2023/08/Kenya-Accessibility-Standard-ICT-Products-and-Services\\_KS-2952-1-2-2022\\_May\\_2023\\_.pdf](https://inable.org/wp-content/uploads/2023/08/Kenya-Accessibility-Standard-ICT-Products-and-Services_KS-2952-1-2-2022_May_2023_.pdf)

<sup>240</sup> *ibid.*

<sup>241</sup> *ibid.*

other ICT products are designed to accommodate users with disabilities, particularly visually impaired individuals who rely on assistive technologies for digital interaction.

A critical component of KS 2952-1-2:2022 is its emphasis on web and software accessibility.<sup>242</sup> Fintech platforms must support assistive technologies such as screen readers, voice navigation systems, and alternative text descriptions for non-text content to facilitate seamless engagement for blind users. This requirement extends to online banking portals, mobile payment applications, and financial management tools, which must ensure compatibility with screen-reading software and customisable content presentation.<sup>243</sup> Websites and applications must allow users to modify text size, contrast levels, and colour schemes to enhance readability and usability.<sup>244</sup>

Hardware accessibility is equally significant in the application of KS 2952-1-2:2022, recognizing that digital interaction extends beyond software solutions.<sup>245</sup> Financial devices such as ATMs, card readers, mobile payment terminals, and other fintech tools must incorporate tactile indicators, voice-assisted navigation, Braille keypads, and alternative input methods to ensure accessibility for blind users.<sup>246</sup> These features enhance usability while promoting inclusivity in both traditional and digital financial services.

The standard mandates that digital platforms remain technologically robust, ensuring compatibility with current and future assistive technologies.<sup>247</sup> Fintech applications must be developed using standardized coding practices that facilitate interoperability with accessibility tools such as voice recognition software, gesture-based navigation, and haptic feedback systems. Furthermore, fintech platforms must remain functional across different devices and browsers to ensure seamless usability regardless of technological advancements.<sup>248</sup>

Navigation and interaction within fintech platforms must be free of barriers, with all functionalities accessible via multiple input modes, including keyboard navigation and voice commands.<sup>249</sup> Many users with disabilities rely on these alternatives, and ensuring compatibility with them reduces accessibility challenges. Additionally, fintech platforms must provide users with adequate time to read and interact with digital content, eliminating time-sensitive obstacles that may hinder financial transactions or access to information.<sup>250</sup> The standard also prescribes safeguards against

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<sup>242</sup> Tiony, Obed Kipkemboi. "The Impact of Digital Financial Services on Financial Inclusion in Kenya." *American Journal of Industrial and Business Management* 13, no. 6 (2023): 593-628.

<sup>243</sup> *ibid.*

<sup>244</sup> *ibid.*

<sup>245</sup> Mhlanga, David. "Prospects and challenges of digital financial inclusion/Fintech innovation in the fourth industrial revolution." *Digital financial inclusion: Revisiting poverty theories in the context of the Fourth Industrial Revolution* (2022): 163-182.

<sup>246</sup> *ibid.*

<sup>247</sup> *ibid.*

<sup>248</sup> *ibid.*

<sup>249</sup> *ibid.*

<sup>250</sup> Okello, Frederick. *Bridging Kenya's digital divide: Context, barriers and strategies*. 2024.

digital content that could trigger seizures or physical discomfort, such as flashing elements or rapidly changing visuals.

Understandability and predictability within fintech services are key aspects of KS 2952-1-2:2022. Text should be clearly readable and comprehensible, avoiding unnecessarily complex language or ambiguous phrasing.<sup>251</sup> Fintech interfaces must maintain consistent navigation structures without sudden or unexpected changes in layout or functionality. Additionally, error prevention and correction mechanisms must be incorporated into financial platforms, ensuring users receive clear feedback on incorrect inputs and assisting them in rectifying errors.<sup>252</sup>

Regulatory compliance forms a fundamental pillar of KS 2952-1-2:2022, requiring fintech providers to assess and align their digital services with established accessibility criteria.<sup>253</sup> Compliance not only ensures adherence to legal obligations but also enhances financial inclusion by eliminating structural and technological barriers that impede access for persons with disabilities. Financial institutions and technology providers must integrate accessibility audits, user testing with individuals who rely on assistive technologies, and adherence to international best practices to continuously improve their digital platforms.<sup>254</sup> Government agencies and consumer advocacy groups play a vital role in monitoring compliance and enforcing adherence to the standard, ensuring that accessibility remains a core component of digital financial offerings.<sup>255</sup>

The Kenya Standard KS 2952-1-2:2022 serves as a transformative framework in fostering an inclusive digital financial landscape. Its implementation within fintech services is crucial for ensuring financial inclusion among blind users, reinforcing the commitment to equitable digital banking, payments, and investment platforms.<sup>256</sup>

Despite its significant contributions to digital inclusion, KS 2952-1-2:2022 presents certain challenges that warrant critical examination. A primary concern lies in the scope and specificity of its accessibility provisions.<sup>257</sup> While the standard establishes general accessibility requirements, it lacks detailed technical specifications for implementing assistive technologies in fintech platforms. Blind users, for instance, require optimized screen reader compatibility, adaptive

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<sup>251</sup> Momanyi, Christopher, Andrew Rasugu Riechi, and Ibrahim Khatete. "Digital skills and the use of digital platforms in the informal sector: A case study among jua kali artisans in Nairobi in Kenya." *International journal for research in vocational education and training* 11, no. 1 (2024): 96-118.

<sup>252</sup> *ibid.*

<sup>253</sup> Muuo, Sheru W., Bhavisha Virendrakumar, George Okello, Moses Chege, Vibian Angwenyi, Kenneth Gichohi, Hillary Kibet et al. "Financial inclusion for persons with disabilities: Experiences of providers and users of financial products and services in Kenya." *PloS one* 20, no. 4 (2025): e0321493.

<sup>254</sup> *ibid.*

<sup>255</sup> *ibid.*

<sup>256</sup> *ibid.*

<sup>257</sup> Ngware, Stephen Githaiga. "GENDER NORMS AND DEMOGRAPHICS IN ENTREPRENEURSHIP AND DIGITAL FINANCIAL SERVICES UTILIZATION." *International Journal of Entrepreneurial Knowledge* 12, no. 1 (2024): 58-69.

authentication methods, and seamless voice-based navigation, yet the absence of precise implementation guidance leads to inconsistent accessibility experiences across financial technologies.<sup>258</sup>

Another challenge is the fragmented nature of enforcement mechanisms due to the multiple regulators and institutions overseeing various aspects of fintech.<sup>259</sup> Digital financial services fall under different regulatory frameworks, making it difficult to implement a unified compliance strategy for accessibility. This regulatory fragmentation often results in inconsistent enforcement, with fintech providers navigating multiple, sometimes conflicting, requirements that do not explicitly prioritize accessibility.<sup>260</sup>

Additionally, KS 2952-1-2:2022 faces limitations due to its lack of strong legal backing within Kenya's existing fintech regulatory landscape.<sup>261</sup> Many of the laws governing digital financial services were enacted before the introduction of the standard, meaning accessibility provisions were not originally integrated into the country's financial and technology regulations. As a newly adopted framework, KS 2952-1-2:2022 has yet to be fully incorporated into broader legal structures, limiting its enforceability and reducing the incentive for fintech providers to prioritise accessibility measures.

Furthermore, the voluntary nature of the standard poses a challenge, as fintech developers and providers often prioritize economic profitability over compliance with accessibility requirements.<sup>262</sup> Without mandatory enforcement mechanisms or financial incentives, organizations may view accessibility improvements as secondary to revenue-driven objectives. This can lead to minimal adoption of accessibility features, particularly when implementation costs are perceived as too high relative to market returns.

Despite these challenges, KS 2952-1-2:2022 remains a crucial instrument in promoting inclusive digital financial services. Strengthening enforcement mechanisms, integrating accessibility into existing fintech regulations, and fostering regulatory cohesion will be essential in ensuring the standard effectively enhances financial inclusion. By refining legal backing and establishing clear implementation guidelines, Kenya can advance accessibility in fintech and create a more inclusive digital financial ecosystem.

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<sup>258</sup> Momanyi, Christopher, Andrew Rasugu Riechi, and Ibrahim Khatete. "Digital skills and the use of digital platforms in the informal sector: A case study among jua kali artisans in Nairobi in Kenya." *International journal for research in vocational education and training* 11, no. 1 (2024): 96-118.

<sup>259</sup> *ibid.*

<sup>260</sup> Muuo, Sheru W., Bhavisha Virendrakumar, George Okello, Moses Chege, Vibian Angwenyi, Kenneth Gichohi, Hillary Kibet et al. "Financial inclusion for persons with disabilities: Experiences of providers and users of financial products and services in Kenya." *PloS one* 20, no. 4 (2025): e0321493.

<sup>261</sup> *ibid.*

<sup>262</sup> *ibid.*

## 3.4 PART II Specific Fintech Activities Governed by the Legal and Regulatory Framework in Kenya

### 3.4.1 Assets and Wealth Management

Asset and wealth management are integral components of fintech, empowering individuals to effectively oversee their financial resources through advanced digital platforms and analytics.<sup>263</sup> These technologies have revolutionized efficiency and broadened client engagement. However, their inclusivity, particularly for blind users, remains insufficiently addressed. The Capital Markets Authority (CMA), mandated under the Capital Markets Act No. 3 of 2000, oversees electronic commerce in capital markets.<sup>264</sup> This includes securities transactions, asset-backed securities, and digital wealth management services.

Through initiatives like the Regulatory Sandbox established in 2019, the CMA fosters innovation by enabling firms to test novel products and services in a real-world environment under regulatory oversight.<sup>265</sup> This allows firms to test innovative products, solutions, or services that have the potential to broaden the capital markets, for a period of up to twelve months in a real-world environment, while still under the Authority's regulatory oversight. The Policy Guidance Note provides for the eligibility, application, and acceptance criteria. The Authority can either authorize an applicant to operate in Kenya subject to existing regulations, develop new regulations based on the observations made in the test, or deny the firm the right to operate.<sup>266</sup> However, this innovation is seldom extended to accommodate blind users' accessibility needs.

The Capital Markets Act, 2000 (as amended) further stipulates provisions relating to the public offering of securities and asset backed securities. The CMA licences and regulates market intermediaries within the securities industry under the Capital Markets Act. Market intermediaries include stockbrokers, derivative brokers, trustees, dealers, investment advisers, fund managers, investment banks, central depositories, real estate investment trusts (REIT) managers, and online forex brokers.<sup>267</sup> The CMA also issues approvals to operate commodities exchanges, securities exchanges, venture capital companies, collective investment schemes and credit rating agencies.<sup>268</sup>

In addition to the market intermediaries expressly regulated under the Capital Markets Act, the CMA is also granted the power to approve or licence any other person operating in a capacity which seems to have a direct impact on the attainment of the objectives of the CMA, which is the

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<sup>263</sup> 'Sink or Swim: Why Wealth Management Can't Afford to Miss the Digital Wave' <<https://www.pwc.com/sg/en/publications/wealth-20.html>> accessed 8 September 2023.

<sup>264</sup> S,2 Capital Market Act Cap 485 A Laws of Kenya

<sup>265</sup> 'The Sandbox Committee' <<https://sandbox.cma.or.ke/index.php/about-us/the-sandbox-committee>> accessed 8 September 2023.

<sup>266</sup> 'FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK' <<https://www.thecityuk.com/our-work/fintech-in-kenya-towards-an-enhanced-policy-and-regulatory-framework/>> accessed 8 September 2023.

<sup>267</sup> *ibid.*

<sup>268</sup> *ibid.*

promotion, regulation and facilitation of the development of an orderly, fair and efficient capital market in Kenya.<sup>269</sup> The Capital Markets Act specifically requires that the CMA regulate the use of electronic commerce for dealing in securities or offer services ordinarily carried out by a licensed person.<sup>270</sup> These would include, for example, providers of technology infrastructure used in asset and wealth management such as portfolio management platforms, research engines, Know-Your-Customer (KYC) systems, analytics tools and settlement systems.<sup>271</sup>

Despite wielding significant regulatory power, the CMA has failed to prioritize accessibility requirements in these services. Neither the sandbox regulations nor the Capital Markets Act mandates the inclusion of accessibility features in digital platforms, nor do they require user-testing with blind individuals prior to market entry. This omission systematically excludes blind users from benefiting equitably within the capital markets ecosystem.

To address this disparity, the CMA must integrate accessibility considerations into its regulatory frameworks and technological approvals. This involves mandating accessibility audits for digital platforms, setting explicit requirements for inclusivity in wealth management tools, and consulting visually impaired stakeholders during platform development. Furthermore, the lack of enforceable standards for blind inclusion undermines the CMA's commitment to fostering an equitable and efficient capital market. Bridging these gaps would not only align with Kenya's disability rights obligations but also advance the broader goal of financial inclusion, ensuring fintech solutions serve all members of society equally.

### 3.4.2 Digital banking

Digital banking encompasses a wide range of banking activities conducted through digital devices, such as desktops or mobile applications.<sup>272</sup> These include accessing account information, conducting transactions (payments, transfers, lending, savings, and investments), and obtaining support services through digital channels linked to existing accounts.<sup>273</sup>

Governed by the Banking Act, Cap 488 of the Laws of Kenya, only licensed institutions or their approved agents may engage in banking activities, which include accepting deposits and employing those funds through lending or investment.<sup>274</sup>

While digital channels for financial services are not regulated separately from traditional banking operations, the CBK Prudential Guidelines require approval for such channels, especially when

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<sup>269</sup> *ibid.*

<sup>270</sup> Capital Markets Act s.11(3)(s)17

<sup>271</sup> 'FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK' (n 95).

<sup>272</sup> OECD, 'Digital Disruption in Banking and Its Impact on Competition' [2020] Oecd 1 <<https://top1000worldbanks.com/africa/%0Ahttp://www.oecd.org/daf/competition/digital-disruption-in-financial-markets.htm>>.

<sup>273</sup> 'FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK' (n 95).

<sup>274</sup> S 2 Banking act Cap 488 Laws of Kenya

third parties are involved.<sup>275</sup> The banks are obliged with ensuring the reliability of banking channels including monitoring to ensure they are not used for illegal activities.

Non-bank FinTech entities that take deposits currently do so by offering products in partnership with licensed institutions. For instance, M-Shwari,<sup>276</sup> a combined savings and loans non-bank product, is offered as a product of the NCBA Bank with M-Pesa as a delivery channel.<sup>277</sup>

However, while the legal and institutional framework governing digital banking is relatively comprehensive, it lacks explicit provisions to ensure accessibility for blind users. Neither the Banking Act nor the CBK Prudential Guidelines impose obligations on banks or third-party providers to incorporate accessibility features in digital banking platforms. This omission effectively excludes blind individuals from fully participating in Kenya's digital financial ecosystem, raising significant ethical concerns.

The failure to prioritize accessibility within the framework not only undermines financial inclusion but also perpetuates systemic discrimination against blind users. To address this disparity, accessibility requirements must be explicitly integrated into the CBK's regulatory provisions. This could include mandatory accessibility audits for digital banking platforms and collaboration with visually impaired stakeholders to ensure products meet universal design principles. By embedding accessibility into the regulatory structure, Kenya can foster a more inclusive digital banking environment, aligning with broader disability rights commitments and the ethical imperatives of equitable access to financial services.

### 3.4.3 Digital credit

The Central Bank of Kenya (CBK) Act defines digital credit business as “the business of providing credit facilities or loan services through a digital channel.”<sup>278</sup> Section 4A(1)

(da) of the Central Bank of Kenya Act, Chapter 491 of the Laws of Kenya (as amended by the Central Bank of Kenya (Amendment) Act, 2021) provides CBK with the powers to licence and supervise digital credit providers that are not regulated under any other Regulation. Regulation 4(2) of the CBK (Digital Credit Providers) Regulations, published in 2022<sup>279</sup> provides that a person who wishes to carry out digital credit business in Kenya shall apply to the Bank for a license. In assessing an application, the regulations provide that the CBK shall consider issues such as the

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<sup>275</sup> Central Bank of Kenya, *Prudential Guidelines* (2013) <<https://www.centralbank.go.ke/wp-content/uploads/2016/08/PRUDENTIAL-GUIDELINES.pdf>>.

<sup>276</sup> ‘The Growth of M-Shwari in Kenya – a Market Development Story - FSD Africa’ <<https://fsdafrika.org/publication/the-growth-of-m-shwari-in-kenya-a-market-development-story/>> accessed 8 September 2023.

<sup>277</sup> ‘Effect of M-Shwari Loan Pricing on Uptake of Loans from NCBA in Meru County | Journal of Strategic Management’ <<https://edinburgjournals.org/journals/index.php/journal-of-strategic-management/article/view/108>> accessed 8 September 2023.

<sup>278</sup> Section 2 Central Bank of Kenya Act

<sup>279</sup> <https://www.centralbank.go.ke/2022/03/21/central-bank-of-kenya-digital-credit-providers-regulations-2022/>

sources and evidence of funds to be invested by or in the digital credit provider written law. In 2022, the CBK introduced a new law mandating that all digital lenders obtain operational licenses, adhere to customer privacy and data protection rights, and comply with anti-money laundering regulations. It's worth noting that requirements ensuring inclusion and preventing discrimination by making digital credit platforms accessible to blind users are not among the criteria to be met in order to obtain a license to operate as a digital credit service provider. In addition, digital lenders in Kenya must submit an application form containing descriptions of their ICT system, delivery methods, loan products and services, anti-money laundering policies, data protection policies, consumer redress systems, and proof of financing sources.

There is a notable failure in the above requirements, by not mandating Digital lenders in Kenya to incorporate detailed descriptions of platform accessibility for PWDs in their application forms, promoting inclusivity and eliminating discriminatory practices in service delivery. The CBK is expected to grant or reject digital credit license applications within sixty (60) days of receiving the application. Furthermore, it is imperative that the Central Bank of Kenya (CBK) includes a provision mandating the inclusion of accessibility descriptions, failure to comply with which may result in the rejection of license applications.

#### **3.4.4 Payment Service Providers (PSPs) & Mobile Money**

Mobile money services are a dominant sector within Kenya's fintech landscape, regulated under the Kenya Information and Communications Act (KICA), 1998<sup>280</sup> which is responsible for the mobile network operators, under the jurisdiction of the Communication Authority of Kenya, and the National Payment Systems Act of 2011,<sup>281</sup> which regulates the payment systems and payment service providers. A Mobile Payment Service Provider means a telecommunications service provider licensed under KICA and authorized by Central Bank of Kenya to offer payment services.<sup>282</sup> The scope of payment services is prescribed by the National Payment System Act to include:

- I. Sending, receiving, storing or processing of payments or provision of other services in relation to payment services through an electronic system;
- II. Ownership, possession, operation, management, or control of a public switched network for the provision of payment services; and
- III. Processing and storage of data on behalf of such payment service providers or users of such payment services.

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<sup>280</sup> Kenya Information and Communications Act

<sup>281</sup> National Payment Systems Act, 2011

<sup>282</sup> 'Mobile Payment Service Provider Definition | Law Insider' <<https://www.lawinsider.com/dictionary/mobile-payment-service-provider>> accessed 8 September 2023.

Payment service providers – also known as merchant service providers or PSPs – are third parties that help merchants accept payments. They enable merchants to accept credit and debit card payments (as well as Mobile Money payments, Direct Debit, bank transfer, real-time bank transfer, etc.).

In short, payment service providers work with acquiring banks (payment processors) to manage the entire transaction from start to finish. Despite mobile money services being a cornerstone of Kenya's fintech landscape and playing a pivotal role in financial inclusion, current laws governing this sector fall short in ensuring the inclusivity of blind users. These regulations lack accessibility requirements to ensure that mobile money services are usable and accessible to individuals with visual impairments. This lack of accessibility requirements results in the exclusion of blind individuals from fully participating in financial inclusion initiatives through mobile money services.

### 3.4.5 Payments

The regulatory approach to FinTech in Kenya can be traced to its regulatory treatment of mobile payments.<sup>283</sup> During the launch of M-Pesa in 2007, the CBK and the CA adopted a test-and-learn approach that led to the enactment of a dedicated payments framework comprising the National Payment Systems Act (NPSA) and the National Payments Systems Regulations (2014) (NPSR) to provide a formal framework for the regulation of payments systems and payment service providers.<sup>284</sup>

FinTech companies operating within the payments space are required to be authorised as Payment Service Providers (PSP) by the CBK.<sup>285</sup> An application for authorisation as a PSP is made to the CBK in a standard form accompanied by requisite documents. PSPs are required to keep the funds of their customers ring-fenced from their own and this is done by keeping the money in a trust fund, ensuring that the balance in the trust fund does not fall below the money owed to the customers. The NPSA allows a PSP to appoint agents and cash merchants to provide the services on its behalf. The ultimate responsibility to the customers, however, remains with the PSP.<sup>286</sup> However, there is a notable gap in addressing the issue of accessibility within this regulatory framework. Service providers in the payments sector are not obligated by the regulatory framework to ensure that their platforms are accessible to individuals with disabilities.

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<sup>283</sup> 'Fintech Regulation in Sub-Saharan Africa - CCAF Publications - Cambridge Judge Business School' <<https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/fintech-regulation-in-sub-saharan-africa/>> accessed 8 September 2023.

<sup>284</sup> Peter M Mwencha, Ali Hussein and Grace Githaiga, 'Towards an Inclusive and Sustainable Fintech Ecosystem in Kenya: Current Outlook, Challenges and Policy Options for the Sector' 1 <<https://www.kictanet.or.ke/?mdocs-file=40999>>.

<sup>285</sup> Payment Service, 'PAYMENT SERVICE PROVIDERS ( PSPs ) AUTHORIZATION CHECKLIST – This A-Z Guide Provides a List of Steps and Requirements For'.

<sup>286</sup> 'FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK' (n 95).

### 3.4.6 InsurTech

Insurance Technology (InsurTech) involves the use of innovative technology to positively transform insurance services.<sup>287</sup> Kenya does not have tailored regulation for InsurTech services.<sup>288</sup> Instead, regulation of InsurTech products and services is based on the underlying insurance product or service offered.<sup>289</sup> Insurance business in Kenya is governed by the Insurance Act, 2006<sup>290</sup> and its subsidiary legislation<sup>291</sup> and regulated by the IRA.

The IRA has introduced an innovation accelerator (BimaLab) and a regulatory sandbox (BimaBox) to support the development of InsurTech products and provide an environment for the testing of innovative insurance solutions with real consumers. The Insurance ‘Regulatory Sandbox’ Guidance Note, 2019, sets out the general requirements, eligibility criteria and application process for prospective participants. Bima Lab has recorded significant progress in the InsurTech sub-sector, with admission to the innovation lab and successful exit leading to improved financing opportunities and promoting understanding by the IRA of the products by the applicants.<sup>292</sup>

The Insurance 'Regulatory Sandbox' Guidance Note, 2019, which outlines the framework for the innovation accelerator (BimaLab) and regulatory sandbox (BimaBox) aimed at fostering InsurTech development, falls short in addressing accessibility requirements. Despite providing guidelines for eligibility and application processes, the regulation fails to mandate InsurTech participants and developers to meet accessibility standards or to test the accessibility of their platforms with PWDs consumers, particularly those with visual disabilities, before market entry. This oversight undermines the inclusivity and effectiveness of InsurTech solutions within the Kenyan insurance sector.

### 3.4.7 Money Remittance Operations

The Money Remittance Regulations, 2013<sup>293</sup> define money remittance business as a “service for the transmission of money or any representation of monetary value without any payment accounts being created in the name of the payer or payee, where funds are received from a payer for the sole purpose of transferring a corresponding amount to a payee or to another payment service operator acting on behalf of the payee, or funds are received on behalf of, and made available to the payee.”

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<sup>287</sup> OECD, ‘Technology and Innovation in the Insurance Sector’ 48 <<https://www.oecd.org/pensions/Technology-and-innovation-in-the-insurance-sector.pdf>>.

<sup>288</sup> ‘FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK’ (n 95).

<sup>289</sup> *ibid*.

<sup>290</sup> Insurance act

<sup>291</sup> <https://www.ira.go.ke/index.php/regulatory-framework/legal-notices?download=515:ln-no-25-the-insurance-group-wide-supervision-regulations-2020>

<sup>292</sup> ‘FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK’ (n 95).

<sup>293</sup> LSK, ‘The Money Remittance Regulations, 2013’ (2013) 56 <<https://www.centralbank.go.ke/wp-content/uploads/2016/08/The-Money-Remittance-Regulations-2013.pdf>>.

Regulation 4 stipulates that for any person to provide money remittance services, the person;

- a) must be incorporated as a limited liability company under the Companies Act;
- b) must obtain approval from the Bank for the proposed business name before incorporation and has the words ‘money remittance’ or ‘money transfer’ as a brand name; and
- c) should be licensed to provide money remittance services under the regulations.

Similarly, Regulation 4 of The Money Remittance Regulations, 2013, fails to adequately address accessibility requirements by not making it obligatory for individuals or entities providing money remittance services to ensure accessibility for blind users. While the regulation outlines criteria such as incorporation and licensing for money remittance providers, it overlooks the crucial aspect of accessibility, thus hindering the inclusion of visually impaired individuals in accessing and utilizing these services effectively.

### **3.4.8 Equity crowdfunding**

Kenya does not have bespoke regulation around equity crowdfunding.<sup>294</sup> There has, however, been a move by the CMA to regulate investment-based crowdfunding through the Capital Markets (Investment Based Crowdfunding) Regulations, 2021. Under the draft regulations, platform operators operating in Kenya are to be licensed by the CMA.

In the absence of specific regulations, the CMA can issue a letter confirming that a crowdfunding model does not need to be regulated under the Capital Markets Act. The CMA recently allowed a debt-based crowdfunding platform known as “Pezesha” (owned by Pezesha Africa Limited) to operate after monitoring it within its regulatory sandbox, subsequently issuing a letter of “no objection”.<sup>295</sup>

## **3.5 Cross-cutting regulations applicable to FinTech providers**

### **3.5.1 Information and communication technology**

The Kenyan Information and Communications Act (1998) regulates the Kenyan ICT sector, including communication and electronic transactions.<sup>296</sup> The Communications Authority of Kenya (CA) is mandated with the licensing of ICT service providers. The CA has in place the Unified Licensing Framework (ULF), which was adopted to be technology and service neutral. Under the ULF, the ICT market is divided into four major categories: (i) Network Facilities Provider (NFP);

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<sup>294</sup> ‘Fintech Regulation in Sub-Saharan Africa - CCAF Publications - Cambridge Judge Business School’ (n 112).

<sup>295</sup> ‘FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK’ (n 95).

<sup>296</sup> *ibid.*

(ii) Application Service Provider (ASP); (iii) Content Service Provider (CSP); and (iv) Community Network and Services Provider (CNSP).<sup>297</sup>

Fintech entities incorporating telecommunications in their operational models are required to be licensed under the ULF.<sup>298</sup> Most Fintech entities will require a CSP license to offer their services over telecommunications infrastructure (including SMS and the internet). Some FinTech entities, however, might require different licenses, depending on their operational model. For example, Mobile Network Operators (MNOs) such as Safaricom and Airtel Kenya require a NFP (Tier 1) license while Mobile Virtual Network Operators (MVNOs) such as Equitel need an ASP license.<sup>299</sup> There are no requirements under The Kenyan Information and Communications Act mandating service providers and developers to ensure the accessibility of their platforms by blind users. This gap in regulation contributes to the financial exclusion of blind individuals through such services.

### 3.5.2: Data protection and privacy

Article 31 of the Constitution of Kenya grants every person the right to privacy, which includes the right not to have information relating to their family or private affairs unnecessarily required or revealed, or to have the privacy of their communications infringed.<sup>300</sup> The Data Protection Act, 2019 (DPA) was enacted to give effect to these provisions.

The DPA regulates the processing of personal data, which it defines as information relating to an identified or identifiable natural person.<sup>301</sup> This is a key consideration to FinTech entities as they shall be required at one point or the other to interact with personal data. This could be as customer KYC, transactional information or even operational information such as employee or supplier records.<sup>302</sup>

The DPA sets basic principles of processing personal data. The Data Protection (General) Regulations (DPGR) published in January 2022<sup>303</sup> expound on the elements of each of these principles and provide for mechanisms through which a person may exercise their rights as conferred by the DPA, such as complaint mechanisms, requests for data deletion or information requests.<sup>304</sup>

The DPA requires organisations to implement data protection by default and by design, which involves the organisation making data privacy considerations during the entire development

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<sup>297</sup> *ibid.*

<sup>298</sup> *ibid.*

<sup>299</sup> *ibid.*

<sup>300</sup> Art. 31 Constitution of Kenya 2010

<sup>301</sup> S 2 Data Protection Act

<sup>302</sup> <https://www.thecityuk.com/our-work/fintech-in-kenya-towards-an-enhanced-policy-and-regulatory-framework/>

<sup>303</sup> 'Data Protection (General) Regulations, 2021 – OFFICE OF THE DATA PROTECTION COMMISSIONER KENYA' <<https://www.odpc.go.ke/regulations/data-protection-general-regulations-2021/>> accessed 8 September 2023.

<sup>304</sup> 'Kenya - Data Protection Overview | Guidance Note | DataGuidance' <<https://www.dataguidance.com/notes/kenya-data-protection-overview>> accessed 8 September 2023.

process and integrating them into the organisation's operating procedures<sup>305</sup>. It also requires that organisations grant the highest possible level of protection to the data subjects by default and have them opt out of certain protections rather than having them start without the protection and opt in.

The DPA obliges organisations to put in place technical and organisational measures to implement the data protection principles and to integrate necessary safeguards during the processing.<sup>306</sup>

The DPA restricts the processing of certain types of information outside of Kenya on the grounds of strategic interests of the state. The DPGR lists the running of systems designated as protected computer systems under the Computer Misuse and Cybercrime Act as being of strategic interest to the state.<sup>307</sup> Such systems include systems related to communications infrastructure, banking and financial services, and payment and settlement systems and instruments. These form the

backbone of most FinTech entities and as such, most FinTech entities will find themselves subject to the restriction in the DPGR. The requirement that information be processed in Kenya, however, is satisfied by storing at least one serving copy of the concerned personal data in a data centre located in Kenya.<sup>308</sup> The provisions of data privacy, especially the four main principles, have been incorporated into the Kenya Standard KS 2952-1-2:2022. This standard aligns with Article 31 of the Constitution of Kenya and the Data Protection Act, 2019 (DPA), ensuring that blind individuals right to privacy is upheld, and personal data is processed in accordance with established principles and regulations.

### 3.5.3 Cybersecurity

The constitutional right to privacy protects persons from having the privacy of their communications infringed. The Computer Misuse and Cybercrimes Act, 2018 (CMCA) breathes life into this constitutional provision by laying out the country's cybersecurity regulatory framework. The Act's primary objectives include the protection of confidentiality, integrity and availability and the prevention of the unlawful use of computer systems.<sup>309</sup>

The CMCA defines critical infrastructure to include processes, systems, facilities, technologies, networks, assets and services essential to the economic wellbeing of Kenyans. It defines 'protected computed systems' to include those used directly in connection with the provision of services directly related to communications infrastructure, banking and financial services, payment and settlement systems and instruments,<sup>310</sup> which definition captures FinTech services.

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<sup>305</sup> 'FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK' (n 95).

<sup>306</sup> 'Kenya - Data Protection Overview | Guidance Note | DataGuidance' (n 133).

<sup>307</sup> Data Protection, 'Lawfulness, Fairness, and Transparency Purpose Limitation' 1.

<sup>308</sup> *ibid.*

<sup>309</sup> *ibid.*

<sup>310</sup> Section 20(2)(c) Computer Misuse and Cybercrimes Act, 2018

The CMCA establishes the National Computer and Cyber Crimes Co-ordination Committee (NC4)<sup>311</sup> which is tasked with establishing codes of cyber security practice and advising the Government on security related aspects touching on matters such as block chain technology, critical infrastructure, mobile money and trust accounts.

In 2012, the CBK issued the Information and Communications Technology Risk Management Guidelines in a preliminary effort to guide banks in mitigating the cyber risks that arise due to the use of ICT. The CBK has also published a Guidance Note on Cybersecurity, applicable to licensed banks.<sup>312</sup> The Guidance Note provides the minimum requirements that must be adhered to by all banks in establishing their information security framework. The CBK extended the coverage of cybersecurity guidelines to PSP's by issuing a Guideline on Cybersecurity for PSP's (PSP Guideline) in July 2019.<sup>313</sup> The PSP Guideline sets the minimum standards that PSPs are required to adopt to develop and implement effective cybersecurity governance and risk management frameworks. It further outlines the minimum requirements that PSPs are required to build upon in the development and implementation of strategies, policies, procedures and related activities for mitigating cyber risk.<sup>314</sup>

#### **3.5.4: Consumer protection**

Consumer protection in Kenya is catered to under several different laws including the Constitution of Kenya under article 46, the Consumer Protection Act, 2012, the CBK Prudential Guideline on Consumer Protection, the Competition Act, 2010 and the Insurance Act. The Consumer Protection Act, 2012 is the principal legislation for the protection of the consumer and prevention of unfair trade practices. This notwithstanding, it is important to note that most sector-specific regulations have incorporated consumer protection provisions capturing the sectors.

For example, the CBK (Digital Credit Providers) Regulations, 2022 addresses consumer protection under Part VII. Digital Credit Providers are required to issue transaction receipts to customers, establish customer redress mechanisms, put in place systems for the purposes of ensuring business continuity, observe limitations set in relation to access and collection of customer information, provide terms and conditions as prescribed by the regulations, avoid false advertisements, and ensure they get a written approval from the CBK prior to variation of credit terms.

The NPSR 2014 provides for disclosure requirements, advertisements, customer care services, filing and resolution of complaints, customer service agreements, and confidentiality. Part VI of the Money Remittance Regulations provides for the consumer protection regulations on disclosure and consumer redress.

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<sup>311</sup> Section 4 Computer Misuse and Cybercrimes Act, 2018

<sup>312</sup> Central Bank of Kenya Guidance Note on Cybersecurity, 2017

<sup>313</sup> Protection (n 136).

<sup>314</sup> 'Press Releases | CBK' <<https://www.centralbank.go.ke/press/>> accessed 8 September 2023.

In 2016, the Competition Authority of Kenya (CAK), relying on its cross-cutting sectoral mandate that extends to all firms in Kenya, issued an order to financial service providers to fully disclose all applicable charges for transactions delivered via mobile phone (including principal value and any additional fees) prior to completing transactions.<sup>315</sup> The CBK has also provided guidance in this regard by issuing the Kenya Banking Sector Charter in 2019 (Charter). The Charter applies to institutions conducting banking business; financial business; the business of a mortgage finance company; and microfinance banks. The Charter, whilst governing these institutions, is hinged on four broad objectives – customer centricity, risk-based credit pricing, transparency and entrenching an ethical culture.<sup>316</sup>

### 3.5.5 Anti-money laundering and KYC

The Proceeds of Crime and Anti-Money Laundering Act, 2009 (POCAMLA) establishes Kenya's Anti-Money Laundering (AML) regulatory framework. With reference to Section 2 of the (POCAMLA) 2009 a financial institution is “any person or entity which conducts as a business, one or more of the activities stated therein including issuing and managing means of payment such as credit and debit cards, cheques, money orders and bankers’ drafts, travellers’ cheques, and electronic money.”<sup>317</sup>

POCAMLA applies to financial institutions, as such, FinTech providers are automatically designated as reporting institutions under POCAMLA.<sup>318</sup> This designation requires them to register as repg institutions with the Financial Reporting Centre (FRC). Reporting institutions are required to undertake customer due diligence on new customers and monitor the customer transactions for any large cash transactions or suspicious transactions on their platforms. In addition, they are required to establish and maintain internal controls and reporting procedures around AML.

Reporting institutions are obliged to take reasonable measures to prevent the use of new technologies for money laundering purposes.<sup>319</sup> As such, FinTech entities are required to consider the money laundering risks posed by products that are brought into the market.

A key challenge that FinTech entities may face is in conducting customer due diligence in the manner required by the POCAMLA, which was drafted with brick-and-mortar institutions in mind. They will be required to formulate mechanisms through which due diligence can be carried out to a satisfactory degree while only interfacing with the customer electronically.

The Prevention of Terrorism Act, 2012 stipulates that entities (financial institutions included) are obliged to monitor products and services for possible use in aiding and supporting terrorist activities. Should these financial institutions have reasonable grounds to believe that property they

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<sup>315</sup> ‘Fintech Regulation in Sub-Saharan Africa - CCAF Publications - Cambridge Judge Business School’ (n 112).

<sup>316</sup> ‘Press Releases | CBK’ (n 143).

<sup>317</sup> ‘FinTech in Kenya: Towards an Enhanced Policy and Regulatory Framework | TheCityUK’ (n 95).

<sup>318</sup> *ibid.*

<sup>319</sup> *ibid.*

hold is under the control of terrorist organisations financial institutions must report their suspicions to the FRC. The CMA has also issued Guidelines on the Prevention of Money Laundering and Terrorism Financing in the Capital Markets.<sup>320</sup>

### 3.6 Conclusion

In examining the legal and institutional framework governing Fintech in Kenya, it is evident that a pragmatic foundation exists. However, a critical analysis reveals a notable gap in the absence of provisions tailored to address the accessibility of Fintech services for blind users. This deficiency not only falls short of constitutional principles outlined in Article 10 but also undermines global aspirations for inclusion and sustainable development, as emphasized in the World Bank's 17 goals.

The discussion highlights the urgency of addressing this gap to align Fintech practices with constitutional ideals and international standards. The lack of specific laws creates a potential loophole, allowing stakeholders to sidestep their responsibilities in ensuring accessibility. The subsequent chapters will delve into various challenges, best international practices as well as potential solutions and recommendations for enhancing Fintech accessibility for blind users in Kenya, promoting a more inclusive and equitable financial landscape.



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<sup>320</sup> 'Regulatory Framework – Capital Markets Authority' <<https://www.cma.or.ke/regulatory-framework/>> accessed 8 September 2023.

## **Chapter 4: Inherent Legal and Regulatory Shortcomings Affecting Financial Inclusion and Fintech Accessibility for Visually Impaired Persons**

### **4.1 Introduction**

Chapter 4 examines the legal and regulatory barriers impeding fintech accessibility for blind users in Kenya. Building on the discussion of The Intersection Between FinTech and Financial Inclusion in Chapter 2, which outlined the core principles of fintech accessibility, and Chapter 3, which assessed the Kenyan legal and regulatory framework governing fintech accessibility, this chapter delves into the systemic challenges limiting inclusivity in fintech. It analyzes legal and regulatory obstacles, offering insight into the interplay between these challenges and their impact on accessibility.

By examining gaps, inconsistencies, and enforcement challenges within the legal and regulatory frameworks, this chapter provides a basis for understanding the systemic barriers that hinder financial inclusion for blind users in Kenya. This analysis is essential for informing recommendations aimed at strengthening the fintech regulatory environment to enhance accessibility and inclusion.

### **4.2 The Voluntary Nature of the Kenya Standard KS 2952-1-2:2022**

significant challenge in the regulation of fintech accessibility in Kenya stems from the voluntary nature of the Kenya Standard KS 2952-1-2:2022. While this standard represents the most comprehensive guideline on the accessibility of ICT and digital services, including fintech, its lack of legal backing through legislation or regulation diminishes its effectiveness. Without a legal obligation mandating stakeholders to adhere to these standards, their implementation and enforcement become challenging.

The discretionary nature of these guidelines renders them merely symbolic, lacking practical mechanisms for implementation and enforcement. Consequently, they become a piece of aspirational rhetoric rather than a practical tool for promoting accessibility in fintech services. The absence of sanctions or penalties for non-compliance further weakens the standards' efficacy, as there are no consequences for failing to meet accessibility requirements.

Without a legal backbone to support the standards, their potential to improve accessibility in fintech services remains largely untapped. The failure to establish a legal framework for these standards undermines their significance in advancing financial inclusion for blind users. Without regulatory oversight and monitoring, there is little assurance that fintech providers comply with accessibility standards. This lack of accountability perpetuates digital exclusion and undermines the rights of blind users to equal access to financial services.

### 4.3 Limited Interoperability of Fintech Platforms

The development of technology-based fintech platforms in Kenya has occurred in silos, resulting in limited interoperability among different systems.<sup>321</sup> This lack of interoperability impedes blind users' ability to access a seamless and integrated fintech experience. For blind customers, navigating multiple platforms to perform various transactions can be cumbersome and inefficient, hindering their financial independence and inclusion.<sup>322</sup>

The World Bank's 2010 Global Payment Systems Survey highlights that less than 20 percent of technology-based products in SSA are fully or partially interoperable, underscoring the pressing need for improved interoperability in the fintech sector.<sup>323</sup> The prevalence of this challenge is largely attributed to the absence of a clear regulatory framework addressing critical aspects such as termination costs for mobile money, pricing structures, and fair competition among market players.<sup>324</sup>

### 4.4 Regulatory Framework Gaps

The limited interoperability of fintech platforms is exacerbated by regulatory framework gaps that fail to adequately address interoperability requirements.<sup>325</sup> Blind users are disproportionately affected by these gaps, as they rely heavily on accessible and integrated platforms to engage in financial transactions. Without regulatory guidance on interoperability standards and requirements, fintech providers may prioritize proprietary systems over interoperable solutions, further perpetuating the accessibility gap for blind users.

### 4.5 Lack of Tailored Regulatory Framework

Kenya's regulatory landscape lacks a tailored approach or framework specifically addressing the accessibility requirements of fintech services for blind users.<sup>326</sup> The existing financial regulatory framework may not adequately accommodate the unique needs and challenges faced by blind users in accessing fintech platforms. This deficiency hampers efforts to ensure comprehensive accessibility standards and guidelines for fintech providers, leaving blind users at a disadvantage.

Without a tailored regulatory framework, blind users may encounter accessibility barriers when accessing fintech services, such as digital banking apps or online payment platforms. Inadequate regulatory provisions may result in inconsistent accessibility features across different fintech

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<sup>321</sup> Wider Working Paper, 'Fintech in Sub-Saharan Africa WIDER Working Paper 2022 / 101 Fintech in Sub-Saharan Africa Njuguna Ndung'u \* September 2022'.

<sup>322</sup> Stephen Thompson, 'Mobile Technology and Inclusion of Persons with Disabilities' [2018] Electronic Journal for Inclusive Education 1  
<[https://assets.publishing.service.gov.uk/media/5b43205a40f0b678b369e262/Mobile\\_tech\\_and\\_inclusion\\_of\\_persons\\_with\\_disability.pdf](https://assets.publishing.service.gov.uk/media/5b43205a40f0b678b369e262/Mobile_tech_and_inclusion_of_persons_with_disability.pdf)>.

<sup>323</sup> Paper (n 150).

<sup>324</sup> *ibid.*

<sup>325</sup> *ibid.*

<sup>326</sup> Thompson (n 151).

platforms, hindering blind users' ability to independently navigate and utilize these services effectively.

#### **4.6 Resource Constraints**

Regulators in Kenya face resource constraints, including limited financial and human resources, to effectively engage with the wide spectrum of fintech products and services.<sup>327</sup> This constraint poses challenges to the regulation and oversight of fintech accessibility, as regulatory authorities may lack the capacity to comprehensively monitor and enforce accessibility requirements.

Fintech providers, on the other hand, encounter challenges in complying with accessibility requirements due to the cost implications.<sup>328</sup> Meeting accessibility standards often requires significant investments in technology, infrastructure, and training, which may strain the financial resources of fintech companies. In the absence of government interventions, such as incentives, grants, or assistance programs, fintech providers may be hesitant to prioritize accessibility initiatives, potentially excluding blind users from accessing their services.<sup>329</sup>

#### **4.7 Lack of Coordination and Regulatory Overlap Among Regulators**

The regulatory framework governing fintech accessibility in Kenya presents significant legal and ethical challenges, particularly for blind users and fintech providers. A key issue is the lack of coordination among multiple regulatory bodies, each with distinct mandates and jurisdictions. This fragmented oversight results in inconsistent enforcement of accessibility standards and creates disparities in the accessibility features of fintech services, leaving blind users vulnerable to exclusion.<sup>330</sup> The absence of a unified approach also hampers efforts to adapt regulatory frameworks to the dynamic fintech landscape, delaying accessibility enhancements and perpetuating regulatory gaps.<sup>331</sup>

Compounding this issue is regulatory overlap, where multiple authorities assert jurisdiction over fintech solutions, leading to a complex and often conflicting legal landscape.<sup>332</sup> Blind users, already facing barriers to accessibility, must navigate overlapping regulations and accessibility requirements imposed by disparate regulatory bodies—a process that is both daunting and exclusionary. For fintech providers, the combination of uncoordinated oversight and regulatory

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<sup>327</sup> Paper (n 150).

<sup>328</sup> Thompson (n 151).

<sup>329</sup> James Atta Pephrah, Eric Atsu Avorkpo and Evans Kulu, 'People with Disability and Access to Financial Services: Evidence from Ghana' (2023) 15 *Regional Science Policy and Practice* 1198 <<http://dx.doi.org/10.1111/rsp3.12643>>.

<sup>330</sup> R Musamali, B Jugurnath and J Maalu, 'Fintech in Kenya: A Policy and Regulatory Perspective' [2023] *Journal of Smart Economic ...* <<https://jseg.ro/index.php/jseg/article/view/220>>.

<sup>331</sup> *ibid.*

<sup>332</sup> *ibid.*

overlap intensifies compliance burdens.<sup>333</sup> This can lead to compliance inefficiencies, increased operational costs, and delays in bringing innovative fintech solutions to market.<sup>334</sup>

Furthermore, regulatory overlap poses legal risks for fintech providers, as conflicting regulations or ambiguous jurisdictional boundaries may result in regulatory scrutiny or legal challenges. Fintech companies may inadvertently violate regulations due to the complexity of navigating multiple regulatory regimes, exposing them to regulatory enforcement actions or legal liabilities.<sup>335</sup> The resulting compliance inefficiencies and legal uncertainties not only hinder the sector's development but also undermine efforts to create an inclusive fintech ecosystem that caters to the needs of blind users. Addressing these challenges requires a concerted effort to establish a harmonized and cohesive regulatory framework that prioritizes accessibility and fosters equitable market development.

#### **4.8 Fragmentation in the Legal Framework**

The lack of uniformity in rule application across different regulatory frameworks contributes to fragmentation in Kenya's financial legal framework.<sup>336</sup> Fintech solutions are offered by diverse entities, including traditional financial institutions, technology companies, and startups, each operating under distinct regulatory regimes. This fragmentation creates inconsistencies in the regulatory requirements and accessibility standards applicable to fintech providers.

For blind users, the lack of standardized accessibility rules across all fintech platforms presents challenges in accessing and using these services effectively. Different accessibility features and user interfaces may lead to inconsistencies in user experience, hindering blind users' ability to fully engage with fintech solutions.<sup>337</sup>

Similarly, fintech providers face challenges in ensuring compliance with varying accessibility requirements imposed by different regulatory frameworks. Adapting fintech solutions to meet disparate accessibility standards adds complexity to development processes and increases compliance costs.<sup>338</sup> Moreover, the lack of standardized rules complicates efforts to scale fintech solutions across different markets, as providers must tailor their offerings to comply with diverse regulatory requirements.

#### **4.9 Lack of Accessibility Standards in Fintech Regulation**

Kenya's regulatory framework governing fintech lacks alignment with the Kenya Standard KS 2952-1-2:2022, which ensures ICT products and services meet the needs of persons with

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<sup>333</sup> *ibid.*

<sup>334</sup> *ibid.*

<sup>335</sup> Anton Didenko, 'Regulating FinTech: Lessons from Africa' (2018) 19 SSRN Electronic Journal.

<sup>336</sup> Musamali, Jugurnath and Maalu (n 159).

<sup>337</sup> *ibid.*

<sup>338</sup> Thompson (n 151).

disabilities. Enacted before this standard, existing laws fail to adequately integrate accessibility considerations, marginalizing blind users and excluding them from full financial participation.

Although regulatory sandboxes have been established to foster fintech innovation, they often overlook explicit accessibility requirements. This omission prevents rigorous testing for inclusivity, resulting in fintech services that remain inaccessible to blind consumers. Additionally, licensing regulations lack provisions that mandate accessibility testing or require applicants to demonstrate inclusivity measures, leaving blind users vulnerable to exclusion.

Unlike mandatory disclosures for security protocols or risk management, accessibility remains sidelined in application forms, perpetuating systemic barriers. This oversight undermines efforts to embed accessibility into fintech services from the outset, reinforcing the financial exclusion of blind users and stalling progress toward an inclusive digital ecosystem.

#### **4.10 Policy Trade-Offs**

The rapid proliferation of digital innovations in the fintech sector has introduced complex policy trade-offs, particularly regarding traditional financial stability and competition objectives.<sup>339</sup> Central banks in Sub-Saharan Africa, including Kenya, traditionally focus on promoting financial system stability through regulation and supervision. However, the rise of fintech presents challenges to this objective, as it may lead to conflicts with efforts to expand financial inclusion and foster competition.<sup>340</sup>

Blind users may be impacted by these policy trade-offs, as conflicts between financial stability and market integrity objectives could influence the accessibility and availability of fintech services. For instance, regulatory measures aimed at promoting financial stability may inadvertently restrict competition and innovation in the fintech sector, limiting blind users' access to accessible solutions.

#### **4.11 Cross-Border Regulatory Complexities**

The borderless nature of digital technology adds layers of complexity to the regulation of fintech accessibility for blind users in Kenya. Fintech services, including digital banking platforms, payment solutions, and investment apps, often transcend national borders.<sup>341</sup> However, regulatory frameworks are typically delineated by jurisdiction, meaning that fintech providers must navigate a patchwork of regulations when offering services across borders.<sup>342</sup>

For blind users in Kenya, this presents a twofold challenge. Firstly, blind users may encounter difficulties accessing fintech services that operate beyond Kenya's borders due to regulatory

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<sup>339</sup> Paper (n 150).

<sup>340</sup> *ibid.*

<sup>341</sup> Musamali, Jugurnath and Maalu (n 159).

<sup>342</sup> *ibid.*

inconsistencies and divergent standards. Each jurisdiction may impose its own set of accessibility requirements, leading to discrepancies in the accessibility features available to blind users depending on their location or the jurisdiction of the fintech provider.

Secondly, the artificial limitations imposed by cross-border regulatory barriers can hinder the availability and development of innovative fintech solutions tailored to the accessibility needs of blind users. Fintech providers may be deterred from expanding their services across borders due to the regulatory complexities involved, resulting in a lack of accessible fintech options for blind users in Kenya.

The proliferation of fintech solutions often blurs traditional jurisdictional boundaries, raising the possibility of conflicts among regulators tasked with overseeing different aspects of fintech accessibility.<sup>343</sup> Blind users may find themselves caught in the crossfire of jurisdictional disputes, as regulatory authorities vie for control over certain fintech products or services. This can result in regulatory uncertainty and legal ambiguity, complicating compliance efforts for fintech providers and hindering blind users' access to innovative fintech solutions.

#### **4.12 Spread of Misinformation**

The proliferation of misinformation poses a significant ethical challenge in fintech accessibility for blind users. Without proper safeguards and measures in place, blind users may be susceptible to false or misleading information regarding financial products and services.<sup>344</sup> This misinformation can lead to uninformed decision-making and potential financial harm. Regulators must address this challenge by implementing measures to combat misinformation and ensure that blind users have access to accurate and reliable information.

#### **4.13 Biasness and Discriminatory Outcomes**

Fintech algorithms may inadvertently perpetuate bias and discriminatory outcomes,<sup>345</sup> particularly against blind users. Biased algorithms can lead to unequal access to financial opportunities and services, further exacerbating existing inequalities.<sup>346</sup> Regulators must address this ethical challenge by implementing measures to identify and mitigate algorithmic bias, ensuring fair and equitable outcomes for all users, regardless of disability status.

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<sup>343</sup> *ibid.*

<sup>344</sup> Law Clerk and others, 'Consumer Financial Inaccessibility Tiffany Penner \* A'.

<sup>345</sup> Muhammad Anshari and others, 'Financial Technology with AI-Enabled and Ethical Challenges' (2021) 58 Society 189 <<https://link.springer.com/article/10.1007/s12115-021-00592-w>> accessed 5 May 2024.

<sup>346</sup> Charlotte McClain-Nhlapo and Deepti Samant Raja, 'Addressing the Drivers of Digital Technology for Disability-Inclusive Development' [2021] Accessible Technology and the Developing World 32 <[https://www.researchgate.net/publication/357216074\\_Addresssing\\_the\\_Drivers\\_of\\_Digital\\_Technology\\_for\\_Disability-Inclusive\\_Development](https://www.researchgate.net/publication/357216074_Addresssing_the_Drivers_of_Digital_Technology_for_Disability-Inclusive_Development)> accessed 5 May 2024.

#### **4.14 Lack of Transparency and Accountability**

The lack of transparency and accountability in fintech systems presents another ethical challenge for blind users. Without clear and transparent processes in place, blind users may struggle to understand how fintech systems operate and how their data is being used.<sup>347</sup> Regulators must prioritize transparency and accountability, requiring fintech providers to disclose relevant information about their systems and processes to blind users and ensuring that mechanisms are in place for accountability and recourse in case of wrongdoing.<sup>348</sup>

#### **4.15 Concerns of Data Privacy and Security**

Blind users face unique concerns regarding data privacy and security in fintech systems. Due to their reliance on assistive technologies, blind users may be more vulnerable to data breaches and privacy violations.<sup>349</sup> Regulators must address these concerns by implementing robust data protection measures and ensuring that blind users' personal information is safeguarded against unauthorized access or misuse.

#### **4.16 Concerns of Cybercrime and Money Laundering**

Blind users may be at increased risk of falling victim to cybercrime and money laundering schemes due to their reliance on fintech systems.<sup>350</sup> Without adequate safeguards in place, blind users may unknowingly participate in illicit activities or become targets of financial scams. Regulators must work to combat cybercrime and money laundering, implementing measures to protect blind users from exploitation and ensuring the integrity of the financial system.

#### **4.17 Ethical Barriers: Accessibility and Accountability in Fintech**

The ethical challenges of fintech accessibility for blind users under this umbrella are twofold, encompassing the lack of inclusive design and the complexities of autonomous technology. Inaccessible fintech systems marginalize blind users, denying them full participation in the digital economy and fostering dependency on others for financial activities. To uphold ethical principles, regulators must mandate accessibility in fintech design, ensuring equal access and empowering blind users to navigate financial platforms independently.

Simultaneously, the rise of autonomous technology within fintech introduces intricate questions of liability and accountability. When these systems make decisions that adversely impact blind users, the absence of clear regulatory frameworks complicates the allocation of responsibility for errors or harm. Regulators must implement comprehensive guidelines to assign liability in such cases,

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<sup>347</sup> *ibid.*

<sup>348</sup> *ibid.*

<sup>349</sup> Clerk and others (n 173).

<sup>350</sup> *ibid.*

safeguarding blind users from injustices and reinforcing ethical accountability in fintech operations.

#### **4.18 Consumer Protection and Ethical Concerns in Fintech Accessibility**

The low levels of financial literacy and income in Sub-Saharan Africa (SSA), including Kenya, present obstacles to the effective utilization of fintech-based solutions,<sup>351</sup> particularly for blind users. Limited financial literacy among blind users may hinder their ability to understand and navigate fintech platforms, exacerbating the accessibility gap. Moreover, the prevalence of low-income levels can lead to vulnerabilities such as exploitation, high indebtedness, and other undesirable behaviours among blind users engaging with fintech services.<sup>352</sup>

These market conduct challenges underscore the need for a clear regulatory framework that addresses consumer protection and promotes responsible financial behaviour.<sup>353</sup> Blind users, like all consumers, require safeguards against exploitation and unethical predatory practices in the fintech sector. A robust market conduct regulatory framework would provide guidelines and standards to govern the provision and operation of technology-based financial services, ensuring that blind users are protected from unfair practices and exploitation.

#### **4.19 Infrastructure Deficits and Accessibility Hurdles**

The development of supportive infrastructure, including reliable internet connectivity, fair competition practices, and robust safety and security measures, is crucial for fostering the growth of the fintech sector in Kenya.<sup>354</sup> However, the absence of adequate infrastructure and regulatory frameworks has hindered market development efforts, limiting the accessibility of fintech services for blind users.

Blind users in Kenya face barriers in accessing fintech services due to infrastructure deficiencies such as unreliable internet connectivity or inadequate safety and security protocols. Additionally, the lack of fair competition practices may result in market distortions that limit blind users' access to a diverse range of accessible fintech solutions.

As shown in the discussion above, accessibility challenges for persons with disabilities persist across various jurisdictions, as evidenced by legal cases advocating for inclusivity and equity. In Kenya, the case of *Wilson Macharia v. Safaricom Plc ([2021] eKLR)*<sup>355</sup> underscored the discriminatory barriers faced by individuals with visual impairments. The petitioner successfully argued that Safaricom's failure to provide reasonable accommodations, such as assistive technology, amounted to a violation of constitutional rights to equality and dignity. This ruling

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<sup>351</sup> Paper (n 150).

<sup>352</sup> *ibid.*

<sup>353</sup> Didenko (n 164).

<sup>354</sup> Paper (n 150).

<sup>355</sup> *Wilson Macharia v Safaricom Plc (Petition 434 of 2019) [2021] KEHC 462 (KLR) (Constitutional and Human Rights) (8 July 2021).*

exemplifies the application of the Perceivable and Operable principles under the POUR framework, highlighting the necessity of accessible employment practices and digital tools to enable participation without undue hardship.

This case complements global rulings such as *Jodhan v. Canada (Attorney General) and National Federation of the Blind v. Target Corporation*, collectively demonstrating that accessibility barriers span borders but are being incrementally addressed through legal advocacy.

In Kenya, the case of *Kenya Society for the Mentally Handicapped v Attorney General & 5 others* ([2012] KEHC 5406)<sup>356</sup> highlighted the systemic barriers faced by individuals with mental disabilities. The petitioners argued that inadequate state policies and discriminatory practices violated their constitutional rights to equality and dignity. The court emphasized the government's obligation to provide reasonable accommodations and ensure accessibility to services, aligning with the Understandable and Robust principles under the POUR framework.

#### 4.20 Conclusion

In conclusion, Chapter 4 has shed light on the significant ethical, legal and regulatory challenges impeding fintech accessibility for blind users in Kenya. These challenges represent formidable obstacles to realizing financial inclusion through fintech, as they hinder accessibility and perpetuate the digital exclusion of blind individuals from essential financial services. Addressing these challenges requires concerted efforts from all stakeholders, including governments, policymakers, service providers, regulators, and others.

By acknowledging and actively addressing the ethical, legal and regulatory barriers faced by blind users, stakeholders can pave the way for greater financial inclusion and empowerment. Failure to tackle these challenges not only perpetuates inequality but also stifles the potential benefits that fintech innovations can offer to blind individuals and society as a whole.

Looking ahead, the forthcoming chapter of this paper will delve into best practices from other jurisdictions that have successfully addressed similar challenges. By examining these practices and lessons learned, Kenya can glean valuable insights to inform its approach to improving fintech accessibility for blind users. By learning from global experiences and adopting tailored strategies, Kenya can take meaningful steps towards realizing its vision of inclusive and accessible financial services for all.

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<sup>356</sup> Kenya Society for the Mentally Handicapped v Attorney General & 5 others; United Disabled Persons of Kenya & another (Interested Parties) (Petition 155A of 2011) [2012] KEHC 5406 (KLR) (Constitutional and Human Rights) (18 December 2012).

## **Chapter 5: Best Global Practices in the Legal and Regulation of Fintech Accessibility by Blind Users**

### **5.1 Introduction:**

In the preceding chapters, this thesis examined Kenya's legal and regulatory framework for FinTech accessibility, alongside the ICT standards underpinning its digital landscape. Chapter 4 provided an in-depth analysis of the ethical, legal, and regulatory barriers hindering FinTech accessibility for blind users, highlighting systemic challenges unique to Kenya. With these obstacles clearly defined, this chapter transitions to a comparative analysis of global best practices, focusing on how leading jurisdictions have successfully addressed similar challenges to promote inclusivity in digital spaces.

This chapter narrows its focus to two carefully selected jurisdictions: the United Kingdom and Canada. Both countries were chosen for their pioneering approaches to accessibility and their progressive frameworks for promoting digital inclusion. The United Kingdom, a nation with deep-rooted anti-discrimination principles anchored by the Equality Act 2010 and regulatory oversight by the Financial Conduct Authority, demonstrates how ethical commitments can be seamlessly integrated into legal structures to foster accessibility in FinTech. Canada, through its Accessible Canada Act 2019 and its emphasis on universal design principles, showcases a proactive legislative model that embeds accessibility across diverse sectors, including FinTech.

The selection of these jurisdictions is further justified by their shared legal heritage with Kenya. As a former British colony, Kenya has inherited a common law legal system closely aligned with those in the UK and Canada, facilitating comparisons in legal principles and statutory frameworks. Both countries have demonstrated leadership in promoting disability inclusion through legal mandates and regulatory enforcement. The UK's Equality Act and Public Sector Bodies Accessibility Regulations ensure adherence to high accessibility standards, including WCAG 2.1 guidelines, while Canada's Accessible Canada Act and human rights laws set benchmarks for eliminating barriers to accessibility in digital platforms. Furthermore, both jurisdictions emphasize innovation-driven approaches, with the UK prioritizing inclusive design within its regulatory sandbox initiatives and Canada focusing on universal accessibility in its digital payment systems. Beyond legal mandates, both countries recognize the ethical dimensions of digital inclusion, emphasizing fairness, dignity, and transparency in the development and implementation of FinTech solutions.

Through this comparative analysis, this chapter endeavors to uncover actionable insights for Kenya, offering practical strategies to enhance financial accessibility for blind users. The lessons learned from the United Kingdom and Canada will inform the recommendations presented in Chapter 6, paving the way for Kenya to foster a more inclusive FinTech ecosystem and uphold its constitutional principles of equality and non-discrimination.

## 5.2 United Kingdom

The United Kingdom stands at the forefront of global fintech innovation and is renowned for its advanced legal and regulatory framework, particularly in addressing the accessibility needs of PWDs within the fintech sector<sup>357</sup>. Notably, the UK's Equality Act of 2010 serves as a cornerstone in combating discrimination against individuals with disabilities, encompassing a wide spectrum of goods, facilities, and services provided to the public, as well as the Accessibility of Public Authorities' Websites and Mobile Applications Regulations, which implement EU Directive 2016/2102.<sup>358</sup>

The UK's departure from the European Union following Brexit in 2020 did not sever the influence of EU legislation on its regulatory landscape. Prior to Brexit, the UK adopted several EU laws that continue to shape its approach to accessibility. Directive (EU) 2016/2102, aimed at ensuring the accessibility of public sector websites and applications, remains a key reference point. Furthermore, UK-based companies seeking to trade within the EU market must comply with regulations such as Directive (EU) 2019/882—the European Accessibility Act—which harmonizes accessibility requirements for products and services. This enduring intersection between UK and EU accessibility standards underscores the ethical and legal dimensions of digital inclusion in the UK, highlighting the interplay between domestic and international norms in shaping an inclusive fintech ecosystem.

### 5.2.1 European Union Laws Influencing Accessibility of Fintech Services in the UK

The European Union stands as a global leader in championing and safeguarding the rights of persons with disabilities, particularly in the realm of ICT accessibility, which is pivotal for fintech platforms' operations.<sup>359</sup> Simultaneously, it boasts a robust fintech landscape alongside a well-established regulatory framework. Examining the broader EU laws governing digital/ICT accessibility unveils a concerted effort to address accessibility challenges comprehensively. Rather than imposing mandates uniformly, the EU coordinates legislative and policy endeavors across its member states.<sup>360</sup> Central to this coordination are two pivotal laws:

- i. The EU Web Accessibility Directive, also known as the Web and Mobile Accessibility Directive (EN 301 549)
- ii. The European Accessibility Act

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<sup>357</sup> Karthika M., Neethu K. and Lakshmi P., 'Impact of Fintech on the Banking Sector' (2022) 2 Integrated Journal for Research in Arts and Humanities 109.

<sup>358</sup> Thompson (n 151).

<sup>359</sup> 'Digital Accessibility Legislation, European Best Practices: Research Report | United Nations Development Programme' <<https://www.undp.org/ukraine/publications/digital-accessibility-legislation-european-best-practices-research-report>> accessed 13 May 2024.

<sup>360</sup> *ibid.*

### 5.2.1.1 EU Web Accessibility Directive or Web and Mobile Accessibility Directive (EN 301 549)

The EU Web Accessibility Directive, adopted on October 26, 2016, mandates that all public sectors of EU member states ensure accessibility of their websites, mobile applications, and digital content including fintech platforms to people with disabilities, aiming for active participation in the digital economy.<sup>361</sup> Incorporated within this directive is the EN 301 549 standard, which establishes accessibility requirements for ICT products and services in Europe, thereby officially requiring compliance with WCAG 2.1 Level AA standards.<sup>362</sup>

EN 301 549 necessitates that public bodies subject to the directive ensure accessible content, publish model accessibility statements, establish a feedback mechanism for reporting inaccessible fintech content, and provide a link to the enforcement procedure. All EU member states must comply, covering websites, mobile applications, and digital content of various public sector bodies.<sup>363</sup>

The European Commission had set deadlines for compliance:

- September 23, 2019, for websites published after September 23, 2018
- September 23, 2020, for websites published before September 23, 2018
- June 23, 2021, for mobile applications.

Non-compliance with the directive may lead to fines, legal penalties, negative publicity, and potential consumer backlash.

### 5.2.1.2 European Accessibility Act

Directive 2019/882, also known as the European Accessibility Act (EAA), aims to enhance the internal market for accessible products and services within the EU by harmonizing regulations across Member States. Adopted in June 2019, Member States must transpose the directive into national law by June 2022, with enforcement required by July 2025.<sup>364</sup>

Prior to the EAA, varying accessibility standards across EU Member States led to limited product selection, higher prices, and fragmented markets. The EAA establishes common accessibility rules, facilitating the sale of compliant products and services across the EU, thereby expanding consumer choices.

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<sup>361</sup> ‘Directive - 2016/2102 - EN - EUR-Lex’  
<<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32016L2102>> accessed 13 May 2024.

<sup>362</sup> *ibid.*

<sup>363</sup> *ibid.*

<sup>364</sup> ‘Directive - 2019/882 - EN - EUR-Lex’  
<<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32019L0882>> accessed 13 May 2024.

The EAA promotes a "design for all" approach, aligning with the four principles of accessibility: perceivable, operable, understandable, and robust (POUR), which form the basis of the Web Content Accessibility Guidelines (WCAG).<sup>365</sup> It applies to private companies offering products or services deemed essential for disabled individuals, with diverse accessibility requirements.

Covering hardware, software, web, and services such as computers, ATMs, smartphones, telephony services, banking, and e-commerce, the EAA ensures compliance regardless of a business's location. Previously, companies tailored products to meet specific country requirements, limiting competitiveness and reducing incentives for accessibility.

The EU Commission estimates that divergent accessibility requirements cost €20 billion in 2020, with the proposed action projected to reduce this by 45% to 50%.<sup>366</sup> Standardized rules enable companies to reach wider European markets, encouraging the creation of accessible offerings.

For consumers, the EAA means greater choice, improved products, and competitive pricing. It also fosters independent living for people with disabilities by expanding access to essential products and services.

Enforcement of the EAA falls under the jurisdiction of each Member State, which appoints enforcement bodies and determines penalties.<sup>367</sup> Penalties must be effective, proportionate, and dissuasive. Consumers can report noncompliance to the courts or relevant enforcement bodies. Both public and private organizations have recourse to legal action or complaints.

While deadlines for implementing regulations may vary, enforcement mechanisms are consistent across Member States, with responsibilities including enforcement, imposing fines, and reporting to the European Commission.<sup>368</sup>

### 5.3 Equality Act (2010)

The Equality Act regulates civil rights and protects the rights of people with disabilities in particular. It consolidates over 116 separate pieces of legislation, including the Disability Discrimination Act 1995.<sup>369</sup>

This law is aimed at the private sector. While the Act does not explicitly delineate digital services, its accompanying Code of Practice elucidates the inclusion of websites and mobile applications as part of the services obligated to adhere to its provisions, as well as WCAG which is considered the de facto standard.<sup>370</sup>

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<sup>365</sup> *ibid.*

<sup>366</sup> *ibid.*

<sup>367</sup> *ibid.*

<sup>368</sup> *ibid.*

<sup>369</sup> 'Legislative Regulation of Digital Barrier-Free Environment : Best European Practices Report On' (n 194).

<sup>370</sup> *ibid.*

The law applies to all countries of the United Kingdom, except Northern Ireland, where the Disability Discrimination Act remains in force.

#### **5.4 Rules for accessibility of websites and mobile applications of public authorities (No. 2) 2018**

This document defines that websites and mobile applications of public authorities must be perceivable, operable, understandable, robust and contains all other requirements stipulated by EU Directive 2016/2102.<sup>371</sup> It further fortifies this mandate, stipulating that public entities must conform to the internationally recognized Web Content Accessibility Guidelines (WCAG) 2.1 AA standard and furnish an accessibility statement.<sup>372</sup>

The Minister of the Cabinet of Ministers is responsible for compliance with the accessibility requirements, and the CDDO (Central Digitalization and Data Office) is responsible for monitoring.<sup>373</sup> It has the power to request information and demand access to any public sector organization's web content – both intranet and public-facing materials. If a public sector body fails to publish an accessibility statement on their website – or one that is not accurate – the CCDO will publish the organisation's name.<sup>374</sup>

The enforcement body in all countries of the United Kingdom is the Equality and Human Rights Commission (for Northern Ireland – the Northern Ireland Equality Commission).<sup>375</sup> It has the power to investigate non-compliant organizations and initiate legal action against them.

In a proactive stride towards fostering inclusivity and user-centric design, the UK government endorsed the BS ISO 30071-1 standard, succeeding the BS 8878, to augment accessibility and usability in web development endeavour's.<sup>376</sup> Aligned with the tenets of the Equality Act 2010 and referencing WCAG 2.0, this standard compels organizations to facilitate effective communication with customers possessing diverse disabilities, furnish reasonable accommodations, and eliminate accessibility barriers on their digital platforms including fintech platforms.<sup>377</sup>

Crucially, the enforcement of accessibility regulations extends to a broad spectrum of entities, encompassing central and local government bodies, non-governmental organizations, and public-funded charities, accentuating the paramount importance of inclusivity in the digital realm.<sup>378</sup> The regulatory framework mandates strict compliance deadlines, mandating adherence to accessibility

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<sup>371</sup> *ibid.*

<sup>372</sup> Thompson (n 151).

<sup>373</sup> 'Legislative Regulation of Digital Barrier-Free Environment : Best European Practices Report On' (n 194).

<sup>374</sup> *ibid.*

<sup>375</sup> *ibid.*

<sup>376</sup> Thompson (n 151).

<sup>377</sup> *ibid.*

<sup>378</sup> *ibid.*

standards for both new and pre-existing websites and mobile applications, underpinning the imperative of universal accessibility in digital offerings.<sup>379</sup>

If any person believes that the website or mobile application of a certain public authority does not meet the accessibility requirements, they can inform the authority of the error and request that the content be provided in an accessible format. If the public authority continues to fail to comply with the accessibility requirements or the person is not satisfied with the response received from it, he or she has the right to complain to the enforcement authority.<sup>380</sup> Failure of a public authority to comply with accessibility requirements is considered a violation of the Equality Act (except in Northern Ireland, where the Disability Discrimination Act is in force). Failure to align with accessibility mandates may precipitate legal ramifications, financial liabilities, and reputational damage, underscoring the significance of proactive compliance measures in safeguarding against potential legal entanglements and fostering a culture of accessibility and inclusion within the fintech ecosystem.<sup>381</sup>

Several discrimination cases against non-compliant websites have been brought forward by the Royal National Institute of Blind People (RNIB) and settled out of court.<sup>382</sup> In a judicial review by Dr Yusuf Osman, 44, who is blind, against the Department for Work and Pensions (DWP) for sending him letters he could not read. He had asked the DWP to send him benefit letters in braille or as accessible PDFs.

However, the DWP continued sending him inaccessible or significantly delayed correspondence. As part of Dr Osman's case, Royal National Institute of Blind People and several blind persons gave witness statements to show he was not the only person experiencing these issues.<sup>383</sup> Both sides agreed to a settlement which was formalised by the High Court in what is known as a consent order. It also declared the DWP failed to make reasonable adjustments for Dr Osman contrary to the Equality Act 2010.

The DWP agreed to pay Dr Osman £7,000.<sup>384</sup> In another case, Stephen Campbell took a disability discrimination case against two organisations, including his employer the Western Health Trust.

He claimed the job application process did not meet his needs as a blind man since the websites were not accessible using screen reader.

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<sup>379</sup> *ibid.*

<sup>380</sup> *ibid.*

<sup>381</sup> *ibid.*

<sup>382</sup> 'Overview of UK Accessibility Laws for Websites - Siteimprove' <<https://www.siteimprove.com/glossary/uk-accessibility-laws/>> accessed 19 May 2024.

<sup>383</sup> *ibid.*

<sup>384</sup> *ibid.*

As part of the settlement terms, The Western Health Trust and the HSC Business Services Organisation (BSO) confirmed their commitment to ensuring they comply with their obligations under relevant equality laws, and paid Stephen Campbell £3,000 as a discrimination settlement.<sup>385</sup>

## **5.5: Implementation of the POUR Principles in the United Kingdom**

The United Kingdom provides a compelling case study of a mature regulatory environment that has integrated accessibility into fintech development, particularly through adherence to the POUR principles. Through a combination of legislative mandates, institutional policies, and private sector initiatives, the UK has demonstrated how accessibility can be embedded into the design and delivery of digital financial services. These experiences offer practical insights for Kenya as it strives to achieve a more inclusive financial ecosystem.

### **5.5.1 Perceivable**

UK financial institutions have made deliberate efforts to ensure that fintech interfaces are perceivable by users with visual impairments. A landmark initiative in this regard is the implementation of audio-enabled ATMs, spearheaded by banks such as Barclays.<sup>386</sup> These machines allow blind users to conduct transactions privately through spoken prompts delivered via headphones. In addition, UK banks have introduced accessible card designs, such as those with tactile notches or Braille indicators, which assist users in identifying and orienting their bank cards correctly.<sup>387</sup> These innovations are supported by accessibility-focused policies across the sector, contributing to a user experience that is both independent and secure.

### **5.5.2 Operable**

To meet the operability standard, UK banks have diversified the methods by which users can access and interact with financial services. Features such as biometric login, voice authentication, and keyboard-navigable websites are now widely available.<sup>388</sup> Furthermore, mobile banking apps offer compatibility with screen readers, and alternative channels such as telephone banking remain accessible for users with more specific needs. These measures are designed not only for technical operability but also to preserve user dignity and autonomy.

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<sup>385</sup> *ibid.*

<sup>386</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>387</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>388</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

### **5.5.3 Understandable**

The UK's financial literacy and accessibility strategies have also addressed the principle of understandability. Banking institutions provide account statements, contract summaries, and customer support in alternative formats, including Braille, Easy Read, and large print. High-contrast visual schemes and consistent iconography further assist visually impaired users in navigating digital interfaces.<sup>389</sup> By simplifying content and enhancing clarity, these measures reduce cognitive load and ensure that blind users are not only able to access but also fully comprehend financial information.

### **5.5.4 Robust**

Robustness, understood as the ability of systems to remain compatible with assistive technologies, is addressed in the UK through regulatory standards and industry best practices. Most major banks ensure that their platforms meet WCAG 2.1 AA standards and undergo regular accessibility audits. UK Finance, the industry trade body, has published guidelines urging members to future-proof their digital offerings by ensuring backward and forward compatibility with screen readers, Braille displays, and other assistive tools.<sup>390</sup> Moreover, the upcoming implementation of the EU Accessibility Act—though the UK is no longer an EU member—continues to influence UK policy and provides an impetus for maintaining high standards in digital accessibility.<sup>391</sup>

## **5.6 Ethical Dimensions of Digital Inclusion in the United Kingdom**

The United Kingdom (UK) has long been at the forefront of integrating accessibility and ethical responsibility into its regulatory frameworks, particularly within the context of financial services. As digital financial services, including FinTech, continue to expand, the UK has made considerable strides in addressing the needs of disabled users, including those with visual impairments. This section explores the ethical dimensions of digital inclusion in the UK by examining key legislation, regulatory frameworks, and ethical principles that guide the creation and implementation of accessible FinTech platforms. A particular focus will be placed on how the UK's legal architecture, ethical considerations in algorithmic design, and consumer protection frameworks contribute to inclusive digital environments.

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<sup>389</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>390</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>391</sup> FinTech Futures, 'State of Play: Accessibility in Fintech' (2024) <https://www.fintechfutures.com/2025/01/state-of-play-accessibility-in-fintech/> accessed 27 April 2025.

## 5.7 The Equality Act 2010 and Ethical Obligations

The core ethical principle underpinning digital inclusion in the UK is enshrined in the Equality Act 2010, which represents a comprehensive piece of legislation designed to protect individuals from discrimination based on various characteristics, including disability. The Act consolidated several previous laws and established a unified framework for tackling discrimination in areas such as employment, education, and public services.<sup>392</sup>

Section 20 of the Equality Act 2010 mandates that service providers, including financial institutions, make reasonable adjustments to ensure that disabled individuals are not placed at a substantial disadvantage compared to non-disabled individuals.<sup>393</sup> This extends to digital accessibility, where service providers are legally required to ensure that their websites, mobile applications, and online financial services are accessible to individuals with visual impairments, such as blind users.<sup>394</sup>

The ethical obligation to ensure that digital services are accessible aligns with the social model of disability, which asserts that disability is caused by societal barriers rather than inherent impairments. From this perspective, the failure to provide accessible digital services constitutes a social injustice, and service providers bear an ethical responsibility to design inclusive platforms that uphold the dignity of all users.<sup>395</sup> By incorporating accessibility into the fabric of financial service design, the UK has placed inclusive design at the forefront of its ethical obligations under the Equality Act.

## 5.8 The Role of the Financial Conduct Authority (FCA) in Ensuring Ethical Compliance

The Financial Conduct Authority (FCA), the UK's primary regulatory body for financial services, plays a critical role in enforcing the ethical standards for accessibility in the financial sector. The FCA operates under the principles of Treating Customers Fairly (TCF), which is a cornerstone of its approach to consumer protection. This principle requires financial service providers to ensure that all consumers, including those with disabilities, have equal access to financial products, services, and information.<sup>396</sup>

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<sup>392</sup> Mason, Andrew, and Francesca Minerva. "Should the Equality Act 2010 be extended to prohibit appearance discrimination?." *Political Studies* 70, no. 2 (2022): 425-442.

<sup>393</sup> Equality Act 2010, s 20. Available at: <https://www.legislation.gov.uk/ukpga/2010/15/section/20> (accessed 29 April 2025).

<sup>394</sup> Berghs, M., and M. Wilkinson. "Is the workplace about to get better or worse for disabled people in the United Kingdom?." *Disability & Society* (2025): 1-5.

<sup>395</sup> Zhao, Yilin, and Zeshen Ren. "The Alignment of Values: Embedding Human Dignity in Algorithmic Bias Governance for the AGI Era." *International Journal of Digital Law and Governance* 0 (2025).

<sup>396</sup> Schmulow, Andy, Therese Ann Wilson, Nicola Howell, Nina Reynolds, and Paul Mazzola. "Treating customers fairly. A concept. A framework. An alternative?: Submission to the Australian Law Reform Commission Review of the Legislative Framework for Corporations and Financial Services Regulation." (2023).

In its accessibility guidelines, the FCA mandates that financial institutions must take reasonable steps to ensure that their digital platforms are designed to be usable by all consumers, including those with visual impairments. This includes the integration of screen reader technologies, alternative text formats, and voice-activated interfaces, which enable blind users to interact with digital banking services in a way that respects their autonomy and dignity.<sup>397</sup> By embedding the principle of fairness into its regulatory framework, the FCA upholds ethical norms that extend beyond mere legal compliance, emphasizing equity and inclusivity in FinTech design.

### **5.9 Ethical Considerations in Algorithmic Design and Artificial Intelligence (AI)**

With the increasing use of artificial intelligence (AI) and algorithmic decision-making in the UK's financial services sector, ethical challenges related to algorithmic transparency, bias, and discrimination have gained significant attention.<sup>398</sup> The rise of AI-powered systems, such as credit scoring models and automated loan approval systems, raises concerns about the fairness of these systems, particularly in relation to how they impact vulnerable populations, including disabled users.

One of the central ethical challenges in this domain is algorithmic bias, where AI systems may inadvertently reproduce or reinforce existing biases in the data they process.<sup>399</sup> In the context of blind users, there is a risk that AI-driven financial systems may not take into account the unique needs of disabled individuals, or they may exclude them from services if the algorithms are not designed with inclusivity in mind.<sup>400</sup> Eubanks (2018) highlights that AI systems in social welfare and financial services have historically been prone to reinforcing discriminatory practices, particularly against marginalized groups, including people with disabilities.<sup>401</sup>

The UK has responded to these challenges by promoting ethical AI development. The UK Government's Office for Artificial Intelligence published guidelines for ethical AI, which emphasize transparency, accountability, and the responsibility of developers to ensure that AI

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<sup>397</sup> <https://www.fca.org.uk/publication/corporate/service-standards-november-2016.pdf>

<sup>398</sup> VanDeGrift, Tammy. "Book Club Model for Engaging with Data Science and Ethics: Using Weapons of Math Destruction." In Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 1, pp. 1374-1380. 2024.

<sup>399</sup> Slussareff, Michaela. "O'Neil, Cathy. 2016. Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy. Crown." (2022): 72-75.

<sup>400</sup> Slussareff, Michaela. "O'Neil, Cathy. 2016. Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy. Crown." (2022): 72-75.

<sup>401</sup> Eubanks, Virginia. Automating inequality: How high-tech tools profile, police, and punish the poor. St. Martin's Press, 2018.

systems do not perpetuate inequalities.<sup>402</sup> In the FinTech sector, this means that financial service providers are expected to conduct regular audits of their AI systems to ensure that they are fair, transparent, and inclusive, particularly with respect to individuals with disabilities.<sup>403</sup>

Moreover, the Ethics Guidelines for Trustworthy AI developed by the European Commission provide a useful ethical framework for UK-based firms. These guidelines focus on ensuring that AI respects human dignity, fundamental rights, and non-discrimination principles.<sup>404</sup> For FinTech providers in the UK, adhering to these guidelines requires a commitment to designing AI systems that are not only technically robust but also ethically sound in terms of accessibility and inclusivity for blind users.

### **5.10 Web Accessibility Standards and Universal Design**

The UK has adopted international web accessibility standards, particularly the Web Content Accessibility Guidelines (WCAG 2.1), which have become the benchmark for ensuring that digital content is accessible to all users, including those with disabilities.<sup>405</sup> The WCAG 2.1 guidelines emphasize the importance of perceivable, operable, understandable, and robust design, which are principles that directly support inclusive FinTech platforms.

For instance, screen reader compatibility, which enables blind users to access text-based information through audio output, is one of the core requirements of the WCAG. Financial service providers in the UK are legally and ethically bound to implement these standards to ensure that their websites, mobile apps, and other digital platforms are accessible by blind users.<sup>406</sup> This aligns with the ethical principle of universal design, which advocates for designing products that are usable by the widest possible audience, regardless of their physical or cognitive abilities.<sup>407</sup>

Furthermore, the Public Sector Bodies (Websites and Mobile Applications) Accessibility Regulations 2018 impose additional responsibilities on public-sector organizations, including those in the financial services sector, to comply with WCAG 2.1 accessibility standards. This

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<sup>402</sup> Barnes, Colin, and Simon Prideaux. "Leadership and Disability Studies: Inclusive Development." In *Handbook of Disability: Critical Thought and Social Change in a Globalizing World*, pp. 351-372. Singapore: Springer Nature Singapore, 2024.

<sup>403</sup> Bakir, Berfin. "DIGITAL ACCESSIBILITY FOR VISUALLY IMPAIRED USERS IN DIGITAL SERVICES." (2024).

<sup>404</sup> Botelho, Fernando HF. "Accessibility to digital technology: Virtual barriers, real opportunities." *Assistive Technology* 33, no. sup1 (2021): 27-34.

<sup>405</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>406</sup> Olaniyi Ifeoluwa, M. "Bridging the Digital Divide: Leveraging Human-Centered Computing in Fintech to Enhance Accessibility for Blind and Visually Impaired Customers." (2023).

<sup>407</sup> Oliver, Mike, and Colin Barnes. "Disability studies, disabled people and the struggle for inclusion." In *The sociology of disability and inclusive education*, pp. 20-33. Routledge, 2013.

regulatory framework reflects the ethical obligation for public services to ensure that all users, including those with disabilities, are not excluded from digital financial services due to inaccessible design.<sup>408</sup>

### **5.11 Ethical Implications for Blind Users**

The ethical implications for blind users in the UK's FinTech ecosystem are profound. First, the failure to provide accessible digital platforms not only violates legal obligations under the Equality Act 2010 but also constitutes a moral failure to respect the autonomy and dignity of individuals with disabilities. As Barnes (2015) argues, the inaccessibility of digital platforms denies blind users the opportunity to participate fully in the economic life of the nation, thus exacerbating social exclusion and economic inequality.<sup>409</sup>

Second, the use of AI and algorithmic systems without sufficient safeguards against discrimination can lead to systemic biases that disproportionately affect blind users. The ethical responsibility of FinTech companies in the UK is to ensure that these systems are designed and tested with accessibility in mind, ensuring that blind users can benefit from financial products and services without facing disproportionate barriers.<sup>410</sup>

### **5.12 Conclusion**

The ethical dimensions of digital inclusion in the UK, as reflected in its legal and regulatory frameworks, highlight the importance of inclusive design, algorithmic transparency, and consumer protection in the FinTech sector. The Equality Act 2010, FCA regulations, and international accessibility standards collectively establish a robust ethical foundation for ensuring that blind users are not excluded from the digital financial ecosystem. However, ongoing challenges related to algorithmic bias, AI fairness, and inclusive design require continuous scrutiny and adaptation to ensure that the ethical principles of fairness, transparency, and non-discrimination are upheld in the rapidly evolving FinTech landscape.

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<sup>408</sup> Government Digital Service, 'Public Sector Bodies (Websites and Mobile Applications) Accessibility Regulations 2018' (2018). Available at: <https://www.gov.uk/guidance/accessibility-requirement> (<https://www.gov.uk/guidance/accessibility-requirements>).

<sup>409</sup> Barnes, Colin, and Simon Prideaux. "Leadership and Disability Studies: Inclusive Development." In *Handbook of Disability: Critical Thought and Social Change in a Globalizing World*, pp. 351-372. Singapore: Springer Nature Singapore, 2024.

<sup>410</sup> VanDeGrift, Tammy. "Book Club Model for Engaging with Data Science and Ethics: Using Weapons of Math Destruction." In *Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 1*, pp. 1374-1380. 2024.

### **5.13 Critique of the UK's Accessibility Framework**

Despite the United Kingdom's well-established legal framework for digital accessibility, significant gaps persist that undermine its full effectiveness, particularly within the fintech sector. A key shortcoming lies in the fragmented application of accessibility standards across the UK. While the Equality Act 2010 provides comprehensive anti-discrimination protections, Northern Ireland continues to operate under the older Disability Discrimination Act, resulting in inconsistencies in enforcement and uneven accessibility protections. This lack of uniformity can create confusion among organizations regarding their legal obligations and complicates efforts to ensure widespread compliance.

Another notable limitation is the absence of fintech-specific accessibility mandates. Although general standards, such as the Web Content Accessibility Guidelines (WCAG) 2.1, are referenced, they fail to address the unique challenges posed by fintech platforms. Consequently, some private-sector organizations prioritize innovation and competitiveness over accessibility compliance, leaving blind users and other individuals with disabilities facing barriers in the practical usability of services. Compounding this issue is the focus of legal enforcement mechanisms on public sector bodies, leaving private fintech companies with limited accountability. Cases such as those of Dr. Yusuf Osman and Stephen Campbell underscore these gaps, revealing the persistent struggles faced by blind users despite existing legal protections.

Critics also highlight deficiencies in the ethical dimensions of digital inclusion in the UK. While ethical principles have been integrated into regulatory frameworks, their implementation often lacks consistency. For example, the Financial Conduct Authority's (FCA) "Treating Customers Fairly" (TCF) principle has been criticized for failing to adequately address the specific needs of disabled users. Fintech companies frequently prioritize technological innovation at the expense of inclusivity, neglecting the ethical obligation to ensure that algorithms and digital platforms are designed to accommodate all users. Furthermore, the Equality Act 2010 relies on subjective interpretations of "reasonable adjustments," creating ambiguity and challenges in enforcing ethical accessibility standards, particularly for blind users.

These critiques underscore the need for more fintech-specific regulatory measures, reinforced implementation mechanisms, and clearer ethical guidelines to address the evolving demands of the digital financial landscape. The UK's accessibility framework must expand its scope and adopt a more cohesive and proactive approach to ensure that legal and ethical principles effectively promote digital inclusion for all users.

### **5.14 Canada**

Canada stands as a beacon of proactive inclusivity, exemplifying its commitment to addressing the accessibility needs of its 5.3 million citizens living with disabilities through a multifaceted legal

framework at both federal and provincial levels.<sup>411</sup> Departing from the broad strokes of the Canadian Human Rights Act of 1977, the nation has embarked on a targeted approach with accessibility-specific legislation to navigate the digital landscape.<sup>412</sup> This robust framework ensures that accessibility requirements are not aspirational but legally binding, fostering a culture of inclusivity and accountability across sectors, including financial technology (fintech).

At the federal level, the Canadian Standard on Web Accessibility mandates adherence to WCAG 2.0 Level AA conformance requirements for governmental entities, ensuring universal accessibility within the public sector.<sup>413</sup> Failure to comply by 2021 could have resulted in fines of up to \$250,000, highlighting the stringent consequences of non-compliance.<sup>414</sup> Moreover, federally regulated organizations, including private sector entities, are obligated to adopt the WCAG 2.0 AA standard, reinforcing the imperative of digital inclusivity across diverse sectors.<sup>415</sup>

The Accessible Canada Act, receiving Royal Assent on June 21, 2019, further fortifies Canada's commitment to accessibility, with potential penalties of up to \$100,000 for non-compliance by private or non-profit organizations with more than 50 employees, and all public sector organizations. Aligning with WCAG 2.0 Level AA standards is mandatory, underlining the nation's dedication to equitable access to goods, services, and ICT.<sup>416</sup>

Provincially, landmark initiatives such as the Accessibility for Ontarians with Disabilities Act (AODA) of 2005 mandate adherence to accessibility standards by public, private, and non-profit entities. Similarly, the Accessibility for Manitobans Act (AMA) of 2013 extends accessibility requirements to websites, mobile applications, and digital content, with penalties for non-compliance mirroring federal counterparts.<sup>417</sup>

Furthermore, the Nova Scotia Accessibility Act of April 2017 emphasizes provincial commitment to accessibility, with potential fines of up to \$250,000 for organizations failing to ensure accessibility across goods, services, and ICT platforms, as outlined by WCAG 2.0 AA requirements. These penalties underscore the necessity of proactive adherence to accessibility standards to mitigate legal risks and foster a culture of digital inclusivity across Canada.<sup>418</sup>

In Canada, accessibility requirements are not merely aspirational goals but are legally binding and obligatory in nature. This mandatory framework has significantly enhanced Information and

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<sup>411</sup> Nurul Amira Azmi and Hafizah Besar Saaid, 'The Current Research Landscape on the Person with Disabilities (PWDs) Accessibilities on Digital Government: A Bibliometric Analysis' (2023) 13 International Journal of Academic Research in Business and Social Sciences.

<sup>412</sup> *ibid.*

<sup>413</sup> 'Overview of the Accessible Canada Act' <<https://www.accessibilitychrc.ca/en/overview-accessible-canada-act>> accessed 19 May 2024.

<sup>414</sup> Thompson (n 151).

<sup>415</sup> 'Overview of the Accessible Canada Act' (n 227).

<sup>416</sup> *ibid.*

<sup>417</sup> *ibid.*

<sup>418</sup> *ibid.*

Communication Technology (ICT) accessibility for Persons with Disabilities (PWDs) throughout the country.<sup>419</sup> By imposing sanctions and tough penalties for non-compliance, regulatory authorities have effectively promoted adherence to accessibility laws, thereby fostering a culture of inclusivity and accessibility.

The Accessible Canada Act, with the intention to render Canada barrier-free by January 1, 2040, exemplifies the nation's commitment to accessibility.<sup>420</sup> It prioritizes the identification, removal, and prevention of barriers across various domains, including information and communication technologies, procurement processes, program design, and service delivery.<sup>421</sup> Crucially, the Act underscores the imperative of involving persons with disabilities in the development and design of laws, policies, programs, and structures, ensuring that accessibility standards are crafted with the aim of achieving the highest level of inclusivity.

Under the mandate of the Minister responsible for the Accessible Canada Act, concerted efforts are underway to create a barrier-free Canada through research, policy implementation, information dissemination, and collaboration with provinces and territories.<sup>422</sup> Additionally, the Chief Executive Officer and a board of directors lead the organization. The majority of board members are to be people with disabilities. Accessibility Standards Canada further reinforce the nation's commitment to accessibility, with a focus on developing and enforcing comprehensive accessibility standards.<sup>423</sup>

The Accessibility Commissioner plays a pivotal role in enforcing the Act, utilizing a range of tools to ensure organizational compliance, including inspections, production orders, compliance orders, notices of violation, and compliance agreements.<sup>424</sup> Individuals adversely affected by non-compliance have recourse to file accessibility complaints, which are distinct from discrimination complaints under the Canadian Human Rights Act. Organizations that meet requirements under the Accessible Canada Act could still be subject to discrimination complaints under the Canadian Human Rights Act.<sup>425</sup>

Parliamentary review mechanisms ensure ongoing scrutiny and refinement of the Act, with periodic independent reviews and consultations with stakeholders, including PWDs and affected organizations. Moreover, National Accessibility Week serves as an annual celebration of the contributions of people with disabilities while promoting inclusion and accessibility across Canadian communities and workplaces.<sup>426</sup>

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<sup>419</sup> *ibid.*

<sup>420</sup> *ibid.*

<sup>421</sup> *ibid.*

<sup>422</sup> *ibid.*

<sup>423</sup> *ibid.*

<sup>424</sup> *ibid.*

<sup>425</sup> *ibid.*

<sup>426</sup> 'Overview of the Accessible Canada Act' <<https://www.accessibilitychrc.ca/en/overview-accessible-canada-act>> accessed 13 May 2024.

The landmark case of *Donna Jodhan v. Attorney General of Canada*<sup>427</sup> serves as a critical example of how Canada's accessibility laws have been interpreted and enforced. In this case, Ms. Jodhan, a blind individual, successfully argued that the inaccessibility of public-facing government websites violated her rights under Section 15 of the Canadian Charter of Rights and Freedoms. The Federal Court ruled in her favour, compelling the government to revise its web accessibility policies to ensure compliance with WCAG 2.0 Level AA standards. While this decision underscored the strength of Canada's legal framework in addressing accessibility barriers, it also revealed systemic challenges in enforcement. Audits conducted after the case revealed widespread non-compliance among federal departments, highlighting the need for continuous oversight and updates to accessibility regulations.

This case reflects both the strengths and limitations of Canada's legal framework. The Jodhan case underscores the importance of enforcement and adaptation in ensuring that accessibility laws remain effective, particularly in the rapidly evolving digital landscape.

#### **5.14.1 Implementation of the POUR Principles in Canada**

In seeking to enhance financial inclusion for blind users in Kenya, it is instructive to examine how other jurisdictions have embedded accessibility frameworks within their fintech ecosystems. Canada offers a robust example through its application of the POUR principles—Perceivable, Operable, Understandable, and Robust—originally articulated under the Web Content Accessibility Guidelines (WCAG). These principles have been effectively integrated into Canada's legal, technological, and institutional frameworks to ensure equitable access to digital financial services for persons with visual impairments.

##### **5.14.1.1 Perceivable**

Canadian financial institutions have significantly advanced the perceivability of financial services by incorporating non-visual modes of communication. One notable initiative is the deployment of “talking ATMs” by the Royal Bank of Canada (RBC), which offer audible guidance via headphones, enabling blind users to perform transactions without assistance.<sup>428</sup> This early adoption of inclusive technology signalled a paradigm shift in how banks approached accessibility. Additionally, the Canadian Journey series of banknotes introduced tactile symbols—developed in collaboration with the Canadian National Institute for the Blind—to allow users to distinguish denominations by touch.<sup>429</sup> These features collectively ensure that blind users can perceive essential financial information independently and securely.

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<sup>427</sup> Jodhan v. Canada (Attorney General) et al., (2008) 330 F.T.R. 226 (FC)

<sup>428</sup> ‘Talking ATM’ (Wikipedia) [https://en.wikipedia.org/wiki/Talking\\_ATM](https://en.wikipedia.org/wiki/Talking_ATM) accessed 27 April 2025.

<sup>429</sup> Canadian Journey’ (Wikipedia) [https://en.wikipedia.org/wiki/Canadian\\_Journey](https://en.wikipedia.org/wiki/Canadian_Journey) accessed 27 April 2025.

### 5.14.1.2 Operable

To meet the “Operable” criterion, Canadian regulators and financial service providers have prioritised inclusive digital design. The Financial Consumer Agency of Canada (FCAC) mandates that government-affiliated fintech tools comply with WCAG 2.0 standards, ensuring full keyboard functionality and screen-reader compatibility.<sup>430</sup> Furthermore, fintech applications now include voice-command features and alternative input methods, allowing blind users to navigate platforms without the use of a mouse or touchscreen. These efforts eliminate critical usability barriers and facilitate broader participation in digital finance.

### 5.14.1.3 Understandable

Canada’s emphasis on understandability is evident in the structure and delivery of digital financial content. The FCAC’s *National Financial Literacy Strategy 2021–2026* specifically calls for the removal of linguistic and cognitive barriers in the financial services sector.<sup>431</sup> As a result, banks are increasingly offering documentation and user interfaces in Braille, large print, and audio formats, accompanied by intuitive navigation designs. These efforts ensure that visually impaired users can not only access financial services but also understand the information being conveyed—thus promoting autonomy and informed decision-making.

### 5.14.1.4 Robust

The principle of robustness—ensuring digital systems are compatible with current and future assistive technologies—is enforced in Canada through legal frameworks such as the *Accessible Canada Act 2019*.<sup>432</sup> This legislation requires all federally regulated organisations, including banks, to proactively identify and remove accessibility barriers. Complementary initiatives, such as the Bank of Canada’s collaboration with the University of Ottawa on cognitive accessibility in digital payments, signal a commitment to sustainable and inclusive fintech innovation.<sup>433</sup> These regulatory and technological measures ensure that platforms are not only accessible today but will remain so as technology evolves.

## 5.14.2 Ethical Dimensions of Digital Inclusion in Canada

Canada stands as a global leader in advancing inclusive policies and practices that promote accessibility and equity in the digital sphere. The country’s dedication to ensuring financial

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<sup>430</sup> Financial Consumer Agency of Canada, *Accessibility Plan 2023–2025* (2022) <https://www.canada.ca/en/financial-consumer-agency/corporate/accessibility/accessibility-plan-2023-2025.html> accessed 27 April 2025.

<sup>431</sup> Financial Consumer Agency of Canada, *National Financial Literacy Strategy 2021–2026* (2021) <https://www.canada.ca/en/financial-consumer-agency/programs/financial-literacy/strategy.html> accessed 27 April 2025.

<sup>432</sup> Accessible Canada Act, SC 2019, c 10 <https://laws-lois.justice.gc.ca/eng/acts/A-0.6/> accessed 27 April 2025.

<sup>433</sup> Bank of Canada, ‘Digital Payments: A Framework for Inclusive Design’ (2024) Staff Discussion Paper 2024-15 <https://www.bankofcanada.ca/2024/10/staff-discussion-paper-2024-15/> accessed 27 April 2025.

inclusion for disabled individuals, including blind users, is grounded in a robust legal, ethical, and regulatory infrastructure, addressing ethical considerations in the development of FinTech platforms, and the integration of universal design principles. These frameworks collectively reflect Canada's commitment to creating an inclusive digital ecosystem.

#### **5.14.2.1 The Accessible Canada Act 2019 and Ethical Foundations for Accessibility**

The Accessible Canada Act 2019 (ACA) represents a landmark piece of legislation that sets national standards for accessibility across various sectors, including federally regulated entities such as banks and financial institutions. Section 5(1) of the ACA mandates proactive measures to identify, remove, and prevent barriers to accessibility, with a specific focus on digital technologies and services.<sup>434</sup> The Act's holistic approach addresses multiple dimensions of accessibility, encompassing physical, technological, and systemic barriers.

Under the ACA, digital platforms operated by financial institutions are required to comply with the principles of universal accessibility. This includes the implementation of accessible payment interfaces, compatibility with screen readers, and adherence to global standards such as the Web Content Accessibility Guidelines (WCAG 2.1).<sup>435</sup> The ACA exemplifies Canada's legal commitment to fostering equitable access to digital financial services and positions accessibility not merely as a compliance issue but as a fundamental human right.<sup>436</sup>

#### **5.14.2.2 The Role of Human Rights Law in Promoting Digital Inclusion**

In addition to the ACA, the Canadian Human Rights Act 1985 (CHRA) provides a foundational legal framework for combating discrimination and promoting equality. Section 5(b) of the CHRA prohibits discriminatory practices in the provision of services, including financial services, on the basis of disability.<sup>437</sup> Judicial interpretations of the CHRA have reinforced the obligation of service providers to implement measures that ensure full accessibility for disabled individuals, thereby extending the scope of accessibility rights to the digital realm.

Notably, the Supreme Court of Canada has underscored the importance of equality in access to services in landmark cases such as *Moore v British Columbia (Education)* [2012] 3 SCR 360. The Court emphasized that failing to provide accommodations for disabled individuals constitutes

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<sup>434</sup> Government of Canada, Accessible Canada Act (2019) Government of Canada, Accessible Canada Act (2019). Available at: <https://www.canada.ca/en/employment-social-development/programs/accessible-canada.html> (accessed 28 April 2025).

<sup>435</sup> Government of Canada, Accessible Canada Act (2019) Government of Canada, Accessible Canada Act (2019). Available at: <https://www.canada.ca/en/employment-social-development/programs/accessible-canada.html> (accessed 28 April 2025).

<sup>436</sup> Hamideh Kerdar, Sara, Liane Bächler, and Britta Marleen Kirchhoff. "The accessibility of digital technologies for people with visual impairment and blindness: a scoping review." *Discover Computing* 27, no. 1 (2024): 24.

<sup>437</sup> Canadian Human Rights Act 1985, s 5(b) Canadian Human Rights Act 1985, RSC, c H-6, s 5(b). Available at: <https://laws-lois.justice.gc.ca/eng/acts/h-6/> (accessed 28 April 2025).

discrimination, affirming the ethical imperative for institutions, including those in the FinTech sector, to prioritize accessibility.<sup>438</sup>

### **5.14.2.3 Ethical Dimensions of Universal Design in FinTech Development**

Canada's approach to digital accessibility is deeply rooted in the ethical principle of universal design, which advocates for the creation of products and environments that are inherently accessible to the widest possible audience. Universal design aligns with ethical values of equity, dignity, and autonomy, ensuring that digital financial services are inclusive from the outset rather than requiring retroactive adjustments.

The application of universal design in Canada's FinTech sector is evident in initiatives such as the Inclusive Design Research Centre (IDRC) at OCAD University, which collaborates with financial institutions to develop accessible technologies.<sup>439</sup> These efforts reflect a commitment to embedding accessibility into the core design process, enabling blind users to interact with digital platforms through features such as tactile interfaces, voice recognition, and enhanced compatibility with assistive technologies.<sup>440</sup>

### **5.14.2.4 Regulation of Artificial Intelligence and Ethical Concerns**

The integration of artificial intelligence (AI) in financial services has introduced new ethical challenges related to algorithmic bias, transparency, and accountability. Canada has been proactive in addressing these concerns through initiatives such as the Montreal Declaration for Responsible AI, which outlines ethical principles for ensuring fairness, inclusivity, and human-centred design in AI systems.<sup>441</sup>

In the FinTech sector, the ethical obligation to prevent algorithmic discrimination is particularly significant for blind users, who may face exclusion if AI systems are not designed inclusively. Research shows that biased data sets can lead to algorithmic outcomes that disadvantage marginalized groups, including disabled individuals.<sup>442</sup> To counteract these risks, Canadian regulators, such as the Office of the Privacy Commissioner, have emphasized the need for transparent and accountable AI practices that align with human rights principles.<sup>443</sup>

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<sup>438</sup> Lazar, Jonathan, Daniel F. Goldstein, and Anne Taylor. *Ensuring digital accessibility through process and policy*. Morgan kaufmann, 2015.

<sup>439</sup> Patrick, Vanessa M., and Candice R. Hollenbeck. "Designing for all: Consumer response to inclusive design." *Journal of consumer psychology* 31, no. 2 (2021): 360-381.

<sup>440</sup> Story, Molly Follette, James L. Mueller, and Ronald L. Mace. "The universal design file: Designing for people of all ages and abilities." (1998).

<sup>441</sup> Morandín-Ahuerma, Fabio. "Montreal declaration for responsible AI: 10 principles and 59 recommendations." (2023).

<sup>442</sup> O'neil, Cathy. *Weapons of math destruction: How big data increases inequality and threatens democracy*. Crown, 2017.

<sup>443</sup> Office of the Privacy Commissioner of Canada, 'AI Guidelines' (2021) Office of the Privacy Commissioner of Canada, 'AI Guidelines' (2021). Available at: <https://www.priv.gc.ca/en/privacy-topics/artificial-intelligence>(accessed 28 April 2025).

### **5.14.2.5 Web Accessibility Standards and Ethical Practices**

Canada has embraced the Web Content Accessibility Guidelines (WCAG 2.1) as the benchmark for digital accessibility in the FinTech sector.<sup>444</sup> These guidelines ensure that digital platforms are perceivable, operable, understandable, and robust (POUR principles), providing blind users with seamless access to financial services.<sup>445</sup>

Provincial laws, such as Ontario's Accessibility for Ontarians with Disabilities Act 2005 (AODA), further strengthen accessibility requirements by mandating compliance with WCAG standards for all public and private organizations. AODA's focus on proactive accessibility measures reflects Canada's ethical commitment to removing systemic barriers and fostering an inclusive digital landscape.<sup>446</sup>

### **5.14.2.6 Ethical Implications for Blind Users**

The ethical implications of digital inclusion for blind users in Canada extend beyond compliance with legal standards. The principles of equity and dignity underpin Canada's approach to accessibility, ensuring that blind users are not merely accommodated but fully integrated into the financial ecosystem.<sup>447</sup> Universal design and AI ethics initiatives further highlight Canada's proactive stance in addressing emerging challenges in FinTech accessibility.

### **5.14.2.7 Conclusion**

Canada's legal and ethical frameworks for digital inclusion serve as a global model for promoting accessibility in the FinTech sector. By prioritizing universal design, combating algorithmic bias, and enforcing robust accessibility standards, Canada has established a comprehensive approach to fostering financial inclusion for blind users. These frameworks not only fulfill Canada's legal obligations but also reflect a broader ethical commitment to equity, dignity, and social justice in the digital age.

### **5.14.3 Critique of Canada's Accessibility Framework**

Canada's legal framework for accessibility, though robust, faces critical challenges in adapting to the evolving demands of financial technologies. A significant concern is the fragmented implementation of accessibility standards across provinces. While Ontario's Accessibility for Ontarians with Disabilities Act (AODA) is celebrated as a model of inclusivity, other provinces,

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<sup>444</sup> Hamideh Kerdar, Sara, Liane Bächler, and Britta Marleen Kirchhoff. "The accessibility of digital technologies for people with visual impairment and blindness: a scoping review." *Discover Computing* 27, no. 1 (2024): 24.

<sup>445</sup> Hamideh Kerdar, Sara, Liane Bächler, and Britta Marleen Kirchhoff. "The accessibility of digital technologies for people with visual impairment and blindness: a scoping review." *Discover Computing* 27, no. 1 (2024): 24.

<sup>446</sup> Hamideh Kerdar, Sara, Liane Bächler, and Britta Marleen Kirchhoff. "The accessibility of digital technologies for people with visual impairment and blindness: a scoping review." *Discover Computing* 27, no. 1 (2024): 24.

<sup>447</sup> Royackers, Lambèr, Jelte Timmer, Linda Kool, and Rinie Van Est. "Societal and ethical issues of digitization." *Ethics and Information Technology* 20 (2018): 127-142.

such as Nova Scotia and Manitoba, demonstrate varying levels of compliance and enforcement. This lack of uniformity undermines the coherence needed for a cohesive national strategy, creating disparities in the practical application of accessibility laws. As a result, persons with disabilities (PWDs), particularly blind users, experience unequal access to digital financial services across different regions.

Another pressing issue is the outdated nature of existing regulations, which have struggled to keep pace with emerging technologies. The reliance on WCAG 2.0 Level AA standards, while effective for traditional digital platforms, is insufficient to address the complexities of modern fintech innovations. AI-driven financial tools, such as robo-advisors and chatbots, often lack essential accessibility features like voice navigation or screenreader compatibility, making them difficult for blind users to operate. Similarly, blockchain-based services, including cryptocurrency platforms, present challenges with intricate user interfaces and multi-step authentication processes that are not optimized for assistive technologies. Additionally, biometric authentication methods, such as facial recognition and fingerprint scanning, further marginalize blind users who rely on alternative verification systems. These technological advancements have outpaced Canada's regulatory framework, leaving blind users at a significant disadvantage when accessing cutting-edge financial services. The landmark case of *Donna Jodhan v. Attorney General of Canada* vividly highlights these systemic shortcomings, particularly in the federal government's inability to ensure inclusive online platforms.

Critics of Canada's ethical dimensions in digital inclusion also point to gaps in the Accessible Canada Act 2019, which focuses primarily on federally regulated industries while neglecting provincial jurisdictions and smaller private organizations (McIntyre, 2017). This creates a dual-layered challenge: ethical gaps persist at the provincial level, and smaller organizations, lacking resources, often deprioritize accessibility measures. Further, the voluntary nature of ethical AI guidelines, including the Montreal Declaration, diminishes their impact in addressing algorithmic bias and ensuring inclusivity for disabled users. FinTech companies in Canada frequently treat accessibility as a secondary consideration, rather than embedding it as a core ethical component of the design process. This lack of enforcement in ethical accessibility principles has raised concerns regarding accountability, transparency, and the systemic exclusion of disabled users from innovative technologies.

These critiques underscore the need for Canada to adopt a more unified and future-proof approach to accessibility and ethical digital inclusion. Strengthening enforcement mechanisms, mandating ethical principles for fintech development, and supporting smaller organizations with targeted resources could address current gaps, ensuring that the Canadian framework evolves to meet the demands of an increasingly digital society.

#### **5.14.4 Lessons for Kenya**

Canada's approach to accessibility and ethical dimensions in fintech offers critical insights for Kenya as it strives to enhance digital financial inclusion for blind users. To begin with, Kenya

should adopt a unified legal framework akin to Canada's Accessible Canada Act, mandating adherence to global standards such as the Web Content Accessibility Guidelines (WCAG). This framework must encompass both public and private sectors to ensure uniformity and consistency across the fintech ecosystem. Establishing a dedicated oversight body similar to Canada's Accessibility Commissioner could further strengthen this framework, enabling the monitoring of compliance, enforcement of penalties, and provision of support for accessibility initiatives. By integrating consumer complaint mechanisms, Kenya could foster transparency and accountability, ensuring organizations uphold their obligations to disabled users.

Emerging technologies like AI and blockchain require dynamic and forward-looking accessibility standards. Kenya can prioritize crafting adaptive regulations by involving technology experts and persons with disabilities (PWDs) in the design process. This collaborative approach would ensure that innovations such as AI-driven platforms and blockchain systems are accessible from their inception. Additionally, Kenya could provide incentives, such as tax breaks, for fintech platforms that prioritize accessibility, thereby encouraging compliance while fostering innovation. Drawing inspiration from the landmark Jodhan case, Kenya should establish avenues for litigation and advocacy that empower blind users to seek redress for non-compliance, reinforcing the country's commitment to digital inclusivity.

From an ethical perspective, Kenya can integrate principles such as universal design and algorithmic transparency into its legal and regulatory frameworks to balance innovation with inclusivity. Establishing mandatory ethical guidelines for fintech development can ensure accessibility is embedded into digital platforms from the outset, avoiding costly and inefficient retroactive adjustments. Kenya must adopt proactive measures to address algorithmic bias, such as mandating regular audits of AI systems deployed in financial services, to prevent discriminatory outcomes that could exclude disabled users. Furthermore, stakeholder collaboration remains essential. By fostering partnerships among government agencies, fintech providers, and advocacy groups, Kenya can embed ethical considerations into its fintech ecosystem. Drawing from Canada's collaborative initiatives, these partnerships can create a sustainable and ethical framework for digital financial inclusion that respects the dignity, autonomy, and rights of all users.

### **5.15 Lessons for Kenya from the UK and Canada**

Kenya can draw valuable insights from both the United Kingdom and Canada to enhance digital financial inclusion for persons with disabilities (PWDs), particularly in fintech accessibility.

From the UK, comprehensive anti-discrimination laws akin to the Equality Act 2010 would provide robust legal protections for PWDs, ensuring equitable access to fintech platforms. Establishing a centralized enforcement body, similar to the UK's Equality and Human Rights Commission (EHRC), would further promote accountability and compliance across public and private sectors. Additionally, dynamic accessibility standards tailored to emerging technologies like AI-driven platforms and blockchain systems could improve transparency and inclusivity. Public awareness campaigns modeled on the UK's initiatives would cultivate a culture of

accessibility, while collaborative efforts involving disability rights organizations, fintech companies, and regulators could position Kenya as a regional leader in digital inclusivity.

Canada offers lessons in legal frameworks, notably through the Accessible Canada Act, which mandates adherence to global standards such as the Web Content Accessibility Guidelines (WCAG). Kenya should adopt a similar unified approach, ensuring that both public and private fintech operators uphold accessibility obligations. Establishing a dedicated oversight body, like Canada's Accessibility Commissioner, could strengthen enforcement, enable compliance monitoring, and support accessibility initiatives. Additionally, integrating consumer complaint mechanisms would foster transparency and accountability in fintech services.

For emerging technologies, Kenya can prioritize adaptive regulations by involving technology experts and PWDs in the design process to ensure accessibility from inception. Incentives, such as tax breaks for fintech platforms prioritizing accessibility, could drive innovation while encouraging compliance. Furthermore, drawing inspiration from Canada's Jodhan case, Kenya should create avenues for litigation and advocacy, enabling blind users to seek redress for non-compliance and reinforcing the nation's commitment to digital inclusivity.

By harmonizing these best practices from the UK and Canada, Kenya can establish a sustainable and inclusive fintech ecosystem that respects the dignity, autonomy, and rights of all users. Strengthening its legal and regulatory frameworks while embedding proactive accessibility measures will be instrumental in driving financial inclusion for PWDs.

## **5.16 Conclusion**

Having explored the accessibility frameworks of the European Union (with Germany as a case study), the United Kingdom, and Canada, it is evident that each jurisdiction offers invaluable lessons for enhancing fintech accessibility. The EU's harmonized standards, particularly the Web Accessibility Directive and European Accessibility Act, demonstrate the power of coordinated regional efforts in fostering uniformity across member states. Germany's multi-tiered enforcement mechanisms and consumer-centric approach serve as a strong case study of how EU laws can be effectively implemented at the national level. Meanwhile, the United Kingdom's anti-discrimination principles and proactive adoption of standards such as BS ISO 30071-1 exemplify how legal frameworks can integrate inclusivity into technological innovation. Canada's multifaceted federal and provincial systems underscore the critical role of targeted legislation and enforcement in driving accessibility improvements.

These jurisdictions not only illuminate strengths but also expose challenges. From fragmented enforcement structures to gaps in addressing emerging technologies like AI and blockchain, these weaknesses offer Kenya a roadmap to avoid similar pitfalls. By adopting harmonized standards, empowering regulatory oversight, and ensuring continuous adaptation to technological advancements, Kenya can craft a legal framework that not only addresses its unique challenges but also positions it as a leader in digital inclusivity.

As this chapter concludes, it transitions seamlessly into Chapter 6, where the insights gleaned from global best practices will be translated into actionable recommendations for Kenya. These recommendations aspire to foster a fintech ecosystem that empowers blind users, promotes inclusivity, and drives innovation, ensuring that Kenya’s digital landscape serves as a model for accessibility in the global south.



## Chapter 6: Conclusion and Recommendation

### 6.1 Introduction

As the culminating chapter of this thesis, it is imperative to reflect on the journey undertaken. This paper set out to address a critical lacuna in Kenya's financial technology (fintech) landscape: the lack of comprehensive understanding regarding the legal and ethical ramifications of fintech accessibility for blind users. Despite the rapid adoption of fintech platforms aimed at fostering financial inclusion, the exclusionary nature of these applications for visually impaired individuals remains a pressing concern. Consequently, this research sought to illuminate the legal and ethical challenges surrounding fintech accessibility for blind users in Kenya, thereby bridging the gap between innovation and inclusivity.

The aim of the study was to assess and examine the legal and regulatory framework of fintech accessibility by blind users in Kenya, identify its strengths and weaknesses, and recommend pragmatic solutions to identified loopholes in the legal and regulatory framework that can be adopted by Kenya to promote financial inclusion for blind users through fintech accessibility. The research scrutinizes the legal and regulatory dimensions surrounding fintech accessibility for blind users in Kenya.

Chapter 1 provided the foundation for this study by outlining the research objectives, literature review, and the significance of fintech accessibility for blind users in Kenya. It established the need for a robust legal and regulatory framework to support digital financial inclusion, identifying gaps in existing policies and highlighting the importance of best practices from other jurisdictions.

Chapter 2 explored the intersection between fintech and financial inclusion, defining fintech accessibility and examining its role in promoting economic participation for persons with disabilities. This chapter underscored the necessity of equitable access to digital financial services and emphasized the importance of regulatory interventions to eliminate barriers faced by blind users.

Chapter 3 assessed the Kenyan legal and regulatory framework governing fintech accessibility. The analysis revealed inconsistencies in policy enforcement and gaps in existing regulations that hinder inclusivity. The absence of a centralized oversight mechanism, coupled with fragmented legislative provisions, limits the effectiveness of accessibility initiatives and necessitates comprehensive legal reform.

Chapter 4 examined the specific legal and regulatory challenges impeding fintech accessibility in Kenya. It highlighted enforcement limitations, regulatory inconsistencies, and inadequate policy provisions that fail to comprehensively address the needs of blind users. Strengthening regulatory oversight and harmonizing accessibility laws are critical steps toward ensuring inclusive financial services.

Chapter 5 presented best practices from the United Kingdom and Canada, offering valuable lessons for Kenya. These jurisdictions demonstrate the benefits of unified legal frameworks, centralized enforcement bodies, and proactive accessibility measures. Kenya can enhance fintech accessibility by adopting similar approaches, including anti-discrimination laws, consumer complaint mechanisms, and dynamic regulatory standards tailored to emerging technologies.

In light of these findings, it is imperative for Kenya to refine its legal and regulatory framework to ensure fintech accessibility for blind users. Strengthening enforcement mechanisms, integrating accessibility provisions into financial regulations, and fostering stakeholder collaboration will be instrumental in achieving a more inclusive fintech ecosystem. By learning from international best practices, Kenya can advance digital financial inclusion and promote equitable access to fintech services for all.

## **6.2 Summary of Findings**

The findings of the research indicate that Kenya has a well-structured legal and regulatory framework governing matters concerning persons with disabilities, such as the Constitution of Kenya and the UNCRPD. Additionally, Kenya has pragmatic standards on ICT accessibility founded from the WCAG 2.1, which have the ability to promote ICT, including fintech accessibility by blind users. The paper also found out that Kenya has a robust legal and regulatory framework governing fintech, as well as an institutional framework. However, several key challenges were identified, making it challenging to ensure a sound and pragmatic legal and regulatory framework that will promote fintech accessibility by blind users, hence resulting in financial exclusion of this demographic. In Chapter 5, the paper finds pragmatic and practical solutions to these challenges as practiced in other jurisdictions, notably Canada, the United Kingdom, and Denmark, where the modification, adoption and incorporation of WCAG into legal frameworks has precipitated mandatory accessibility standards for fintech platforms, hence promoting fintech accessibility. These solutions will be presented hereunder as recommendations.

## **6.3 Implications of the Findings**

This study holds significant theoretical and practical implications within the field of law, specifically concerning fintech accessibility for blind users in Kenya. Theoretically, it contributes to the advancement of legal scholarship by providing an in-depth analysis of the legal and regulatory frameworks governing fintech accessibility, particularly in developing countries like Kenya. By uncovering the challenges and gaps in existing legal infrastructure, this research enriches the understanding of how legal mechanisms can facilitate or hinder financial inclusion for marginalized communities within digital spaces.

Practically, the implications extend to policymakers, regulatory bodies, and stakeholders involved in shaping legal frameworks and practices in the fintech sector. The identification of deficiencies in Kenya's legal mandates regarding ICT accessibility underscores the need for targeted policy

reforms and robust enforcement mechanisms to ensure effective implementation. Moreover, drawing insights from international best practices offers actionable recommendations for aligning Kenya's regulatory approach with global standards, thereby fostering a more inclusive fintech ecosystem.

The broader significance of these findings lies in their potential to inform policy interventions aimed at promoting financial inclusion and sustainable development. By heeding the recommendations derived from this study, stakeholders can work towards creating a legal and regulatory environment that not only facilitates innovation in fintech but also ensures equitable access for all, thereby contributing to broader socio-economic objectives.

#### **6.4 Limitations**

This study, conducted through a doctrinal method, encountered several limitations that merit acknowledgment. Firstly, the research was constrained by the scarcity of comprehensive data and materials pertaining to fintech accessibility for blind users in Kenya. This scarcity limited the depth of analysis and may have influenced the comprehensiveness of the findings.

Methodologically, relying solely on the doctrinal approach may have restricted the exploration of socio-economic factors and practical implications beyond the legal realm. A more interdisciplinary approach could have provided a holistic understanding of the challenges faced by blind users in accessing fintech services and the broader socio-economic implications of regulatory interventions.

Furthermore, the evolving nature of fintech regulation and technology poses challenges in capturing the dynamic landscape accurately. As such, the findings of this study may be subject to obsolescence over time, highlighting the need for ongoing research and monitoring of regulatory developments.

#### **6.5 Recommendation for Statutory and Policy Framework**

In light of the findings and insights gleaned from the examination of the legal, regulatory, and ethical landscape surrounding fintech accessibility for blind users in Kenya, the following recommendations emerge as pivotal steps towards fostering a more inclusive and equitable digital financial ecosystem. Drawing upon international best practices and tailored to the unique context of Kenya, these recommendations aim to address the identified challenges and propel the nation towards realizing its vision of comprehensive financial inclusion for all citizens, including those with disabilities. Through strategic interventions in legislation, regulatory frameworks, testing protocols, and government support mechanisms, this paper endeavors to pave the way for a future where fintech platforms are accessible to all, leaving no one behind in the digital economy."

### **6.5.1 Recommendation 1: Making Kenya Standard KS 2952-1-2:2022 Legally Binding**

To address the voluntary nature of accessibility guidelines outlined in Kenya Standard KS 2952-1-2:2022 and to ensure effective implementation and enforcement, it is recommended that Kenya consider making these standards legally binding through appropriate legislation or regulatory measures. This would provide a robust framework for ensuring accessibility requirements are adhered to by all stakeholders within the fintech ecosystem, thereby promoting inclusivity and reducing barriers for blind users.

Detailing this recommendation further, the following steps could be taken:

- a) **Legislative Action:** The Kenyan government could introduce legislation specifically aimed at making Kenya Standard KS 2952-1-2:2022 legally binding. This legislation would outline the legal obligations of relevant stakeholders, including fintech companies, financial institutions, and government agencies, to comply with accessibility requirements. By enacting such legislation, Kenya would establish a clear legal framework for promoting accessibility in the fintech sector.
- b) **Regulatory Formulation:** Alternatively, regulatory authorities such as the Communications Authority of Kenya (CAK) or the Central Bank of Kenya (CBK) could formulate regulations to offer legal backing to Kenya Standard KS 2952-1-2:2022. These regulations would specify the detailed requirements and compliance procedures for stakeholders, providing clarity on expectations and enforcement mechanisms.
- c) **Mandatory Compliance:** The legislation or regulations should mandate compliance with accessibility standards, making it obligatory for all stakeholders to adhere to the specified guidelines. This would eliminate ambiguity and ensure consistent implementation across the fintech industry.
- d) **Enforcement Mechanisms:** Provisions should be included in the legislation or regulations to establish effective enforcement mechanisms. This may involve assigning regulatory authorities with the responsibility of monitoring compliance, conducting audits, and imposing penalties for non-compliance. By enforcing adherence to accessibility standards, Kenya can ensure that blind users have equal access to fintech services.

Drawing from best practices highlighted in Chapter 5, particularly the experiences of Canada and EU members such as Denmark, Kenya can learn from jurisdictions that have successfully implemented legally binding accessibility standards. For instance, the EU's adoption of the European Web Accessibility Directive and the European Accessibility Act has led to the development of national legislation and enhanced accessibility across member states.

By emulating these approaches and making Kenya Standard KS 2952-1-2:2022 legally binding, Kenya can create a more inclusive fintech ecosystem that caters to the needs of all users, including blind individuals.

### **6.5.2 Recommendation 2: Including Testing of Accessibility Features in Regulatory Sandbox**

To ensure the accessibility of fintech platforms for blind users, it is recommended that regulatory authorities incorporate testing of accessibility features by blind users within the regulatory sandbox framework before products are released to the market as recommended by article 9 of the CRPD. This proactive approach will help guarantee that only products with tested and proven accessibility features are made available to consumers, aligning with the principles of inclusivity and accessibility outlined in Chapter 2 of this paper and meeting the requirements of Web Content Accessibility Guidelines (WCAG) 2.1, as discussed in Chapter 5. In this recommendation,

- a) **Incorporating Accessibility Testing:** Regulatory sandboxes provide a controlled environment for testing innovative financial products and services. By including blind users in the testing process, fintech companies can receive valuable feedback on the accessibility of their platforms from the perspective of end-users with disabilities. This ensures that accessibility considerations are integrated into the development phase, rather than being addressed as an afterthought.
- b) **Verification of Compliance:** Fintech companies participating in the regulatory sandbox should be required to demonstrate compliance with the Kenya accessibility standards, including WCAG 2.1, before their products are approved for market release. This verification process ensures that accessibility features have been adequately implemented and tested, contributing to a more inclusive digital financial ecosystem.
- c) **Transparency and Accountability:** Regulatory authorities should establish clear guidelines and criteria for evaluating accessibility during the sandbox testing phase. Fintech companies should be transparent about the accessibility features of their products, providing detailed descriptions of how they cater to the needs of blind users. In cases where accessibility requirements cannot be fully met, companies should provide explanations and, if possible, alternative solutions to address accessibility challenges.
- d) **Continuous Improvement:** The feedback obtained from blind users during the sandbox testing phase should inform ongoing improvements to fintech platforms' accessibility features. Regulatory authorities should encourage collaboration between fintech companies and disability advocacy groups to identify areas for enhancement and ensure that accessibility remains a priority throughout the product lifecycle.

By integrating accessibility testing into the regulatory sandbox process, Kenya can proactively address barriers to financial inclusion for blind users and promote the development of accessible fintech solutions that meet the diverse needs of all users.

### **6.5.3 Recommendation 3: Amending Legislation to Mandate Accessibility Requirements**

To reinforce accessibility requirements within the fintech sector, it is recommended that existing legislation and regulations be amended to include mandatory obligations related to accessibility before licensing fintech products/platforms. Additionally, fintech service providers should be required to include descriptions of accessibility features in their application forms, as seen in the UK, Canada, and EU member nations such as Denmark and Germany, where digital platforms must publish accessibility information and provide explanations for non-compliance. Expanding on this recommendation:

- a) **Legislative Amendments:** Kenya should amend relevant legislation, such as the Communications Authority Act or the Central Bank of Kenya Act, to incorporate provisions mandating accessibility requirements for fintech products and platforms. These amendments would establish legal obligations for fintech companies to ensure their products are accessible to blind users, aligning with international best practices and standards.
- b) **Inclusion of Accessibility Criteria in Licensing Process:** Regulatory authorities should integrate accessibility criteria into the licensing process for fintech products/platforms. Fintech companies seeking licenses should be required to demonstrate compliance with accessibility standards, including WCAG guidelines, as part of their application process. This ensures that accessibility considerations are prioritized from the outset and are integral to the licensing decision.
- c) **Transparency and Accountability:** Fintech service providers should be transparent about the accessibility features of their platforms by including descriptions in their application forms. This information should detail how the platform caters to the needs of blind users and address any limitations or challenges in achieving full accessibility. Regulatory authorities should review and verify the accuracy of these descriptions to ensure accountability and compliance.
- d) **Enforcement Mechanisms:** The amended legislation should include provisions for enforcement mechanisms to address non-compliance with accessibility requirements. Regulatory authorities should have the authority to impose sanctions, such as fines or license revocations, on fintech companies that fail to meet accessibility standards. These enforcement measures create incentives for compliance and ensure accountability within the industry.

By amending legislation to mandate accessibility requirements and integrating accessibility criteria into the licensing process, Kenya can foster a more inclusive fintech ecosystem that prioritizes the needs of blind users.

#### **6.5.4 Recommendation 4: Government Intervention to Support Accessibility Implementation**

To mitigate the financial burden associated with implementing accessibility requirements and ensure affordability and accessibility of infrastructure and devices for blind users, it is recommended that the government intervene through incentives, grants, training programs, and infrastructure development initiatives. By supporting fintech companies and users in implementing accessibility features, Kenya can overcome barriers to financial inclusion and promote equal access to digital financial services. Expanding on this recommendation:

- a) **Incentives and Grants:** The government should provide financial incentives and grants to fintech companies to facilitate the implementation of accessibility features in their products and platforms. These incentives could include tax breaks, subsidies for accessibility-related expenses, or grants for research and development of accessible technologies. By reducing the financial burden on companies, the government incentivizes investment in accessibility and promotes innovation in inclusive fintech solutions.
- b) **Training and Capacity Building:** The government should invest in training programs and capacity building initiatives to enhance awareness and expertise in accessibility design and development. Training sessions, workshops, and certification programs can equip fintech developers and designers with the knowledge and skills needed to create accessible products and platforms. By building human capital in accessibility, Kenya can foster a culture of inclusivity and empower stakeholders to proactively address accessibility challenges.
- c) **Infrastructure Development:** The government should prioritize infrastructure development initiatives to improve internet connectivity and access to affordable devices for blind users. This includes expanding broadband coverage to underserved areas, investing in digital infrastructure projects, and subsidizing the cost of smartphones, computers, and assistive technologies for blind users. By ensuring that essential infrastructure is accessible and affordable, Kenya can enhance the usability and effectiveness of fintech platforms for blind users.
- d) **Public-Private Partnerships:** The government should leverage public-private partnerships to enhance accessibility implementation in the fintech sector. Collaborative initiatives between government agencies, fintech companies, civil society organizations, and disability advocacy groups can facilitate knowledge sharing, resource mobilization, and joint efforts to address accessibility challenges. By fostering collaboration, Kenya can

harness the collective expertise and resources of stakeholders to drive meaningful progress towards accessibility and financial inclusion.

By intervening to support accessibility implementation through incentives, grants, training, and infrastructure development, the government can play a pivotal role in overcoming barriers to financial inclusion for blind users.

### **6.5.5 Recommendation 5: Establishment of Regulatory Body or Authority**

In tandem with making Kenya Standard KS 2952-1-2:2022 legally binding, it is essential to establish a dedicated regulatory body or authority tasked with monitoring and enforcing accessibility laws and standards within the fintech sector. This regulatory body would play a crucial role in overseeing compliance, investigating complaints, and ensuring that accessibility requirements are upheld by all stakeholders. Detailing this recommendation:

- a) **Role and Responsibilities:** The regulatory body would be responsible for interpreting and enforcing accessibility regulations, providing guidance to stakeholders, and monitoring compliance with Kenya Standard KS 2952-1-2:2022. It would serve as a central authority for addressing accessibility issues within the fintech industry.
- b) **Enforcement Measures:** To ensure compliance with accessibility standards, the regulatory body should have the authority to impose sanctions on non-compliant entities. This may include imposing fines, suspending licenses to operate, or even revoking licenses for severe or repeated violations. By implementing robust enforcement measures, the regulatory body can incentivize adherence to accessibility requirements.
- c) **Coordination and Collaboration:** The regulatory body should collaborate with relevant government agencies, industry associations, advocacy groups, and other stakeholders to promote awareness of accessibility standards and foster a culture of compliance within the fintech ecosystem. Close coordination would facilitate information sharing, capacity building, and the development of best practices.
- d) **International Benchmarking:** Drawing inspiration from international models such as the Central Digital and Data Office in the UK and The U.S. Access Board, Kenya can establish a regulatory body with similar functions and mandates tailored to the local context. These institutions serve as examples of effective oversight mechanisms for promoting accessibility and could provide valuable insights for Kenya's regulatory framework.
- e) **Capacity Building and Support:** The regulatory body should also prioritize capacity building initiatives to enhance awareness and understanding of accessibility requirements among stakeholders. This may involve providing training programs, resources, and

technical assistance to fintech companies, developers, and service providers to facilitate compliance with accessibility standards.

By establishing a dedicated regulatory body or authority focused on monitoring and enforcing accessibility laws within the fintech sector, Kenya can strengthen its commitment to promoting inclusivity and equal access to financial services for all citizens, including blind users.

### **6.5.6 Recommendation 6: Integration of Technological Solutions for Fintech Accessibility**

Recognizing the imperative to ensure fintech services are accessible to blind users and the necessity for agile regulation, Kenya should prioritize the adoption of technology-driven solutions specifically geared towards promoting accessibility within the fintech sector. By leveraging technological advancements, regulatory frameworks can be made more inclusive and responsive to the needs of blind users. Here's a detailed outline of this recommendation:

- a) **Technological Integration for Accessibility:** Integrate assistive technologies such as screen readers, voice recognition systems, and tactile interfaces into the regulatory processes. These technologies can enable blind users to access and interact with fintech platforms and services, ensuring they are not left behind in the digital financial landscape.
- b) **Inclusive Regulatory Sandbox:** Establish an inclusive regulatory sandbox environment that not only fosters innovation but also ensures that products and services developed within the sandbox are accessible to blind users. Through the use of digital accessibility standards and user testing involving blind individuals, regulators can promote the development of inclusive fintech solutions from the outset.
- c) **Accessibility-focused RegTech Solutions:** Encourage the development and adoption of RegTech solutions that specifically address accessibility concerns for blind users. These solutions may include features such as voice-guided navigation, alternative input methods, and compatibility with screen readers, making fintech platforms more accessible and user-friendly for blind individuals.
- d) **Data-driven Accessibility Regulation:** Utilize data analytics to monitor and assess the accessibility of fintech services for blind users. By collecting and analyzing data on user experiences and accessibility metrics, regulators can identify areas for improvement and intervene to ensure that fintech companies adhere to accessibility standards and guidelines.
- e) **Collaborative Accessibility Platforms:** Facilitate collaboration between regulators, fintech developers, accessibility experts, and blind user communities through digital platforms and forums dedicated to accessibility in fintech. These collaborative efforts can lead to the sharing of best practices, the development of accessibility guidelines, and the co-design of inclusive fintech solutions that meet the needs of blind users.

By embracing technology to promote accessibility in fintech services for blind users, Kenya can establish a regulatory framework that not only fosters innovation but also ensures that all citizens,

including those with disabilities, can fully participate in and benefit from the digital financial ecosystem.

## **6.6 Recommendations for Future Research**

Building on the findings and limitations of this study, several avenues for future research emerge. Firstly, a more comprehensive investigation into the socio-economic impacts of fintech accessibility initiatives on blind users' financial inclusion and well-being could provide valuable insights into the broader societal benefits of inclusive policies. This could involve empirical studies and qualitative research methods to capture the lived experiences of blind individuals navigating the fintech landscape.

Secondly, exploring the feasibility and effectiveness of integrating the doctrinal findings into policy and practice warrants further investigation. This could entail engaging with policymakers and industry stakeholders to assess the practical implications of proposed regulatory reforms and identify potential implementation challenges.

Additionally, given the evolving nature of fintech regulation, longitudinal studies tracking the implementation and impact of regulatory changes over time are essential. This could involve monitoring changes in accessibility standards, compliance rates among fintech providers, and the experiences of blind users to evaluate the effectiveness of regulatory interventions.

Lastly, a critical analysis of the Kenya Standard KS 2952-1-2:2022 could provide valuable insights into its practicability and effectiveness in promoting fintech accessibility for blind users. This analysis could involve evaluating the alignment of the standard with international best practices and its adaptability to the Kenyan context.

also, research focusing on the impact of integrating the Kenya Standard KS 2952-1-2:2022 into national legislation could shed light on its efficacy in driving tangible outcomes for financial inclusion. This longitudinal study could assess changes in accessibility standards, adoption rates among fintech providers, and the overall impact on blind users' access to financial services.

## **6.7 Conclusion**

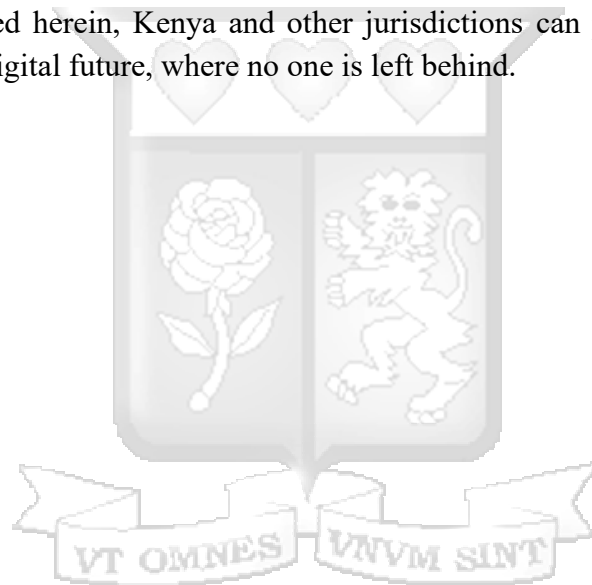
In conclusion, this thesis has provided a comprehensive examination of the legal and regulatory framework governing fintech accessibility for blind users in Kenya. Through a doctrinal analysis, the study uncovered significant strengths and weaknesses in Kenya's approach to promoting financial inclusion within its digital ecosystem.

The findings underscore the importance of robust legal obligations and enhanced implementation strategies to ensure comprehensive accessibility for blind users. Despite Kenya's well-structured legal framework and commitment to international standards, notable challenges persist, including the lack of legal mandates within ICT accessibility standards and regulatory fragmentation.

The implications of this research extend beyond the Kenyan context, highlighting broader issues of inclusivity and equity within fintech ecosystems worldwide. By drawing insights from international best practices and proposing pragmatic solutions, this thesis contributes to the advancement of knowledge and understanding in the field of fintech accessibility and legal scholarship.

Ultimately, the significance of this research lies in its potential to inform policy interventions and industry practices aimed at fostering a more inclusive and equitable digital economy. By addressing regulatory gaps and prioritizing the needs of marginalized communities, stakeholders can work towards realizing the transformative potential of fintech in advancing financial inclusion and sustainable development goals.

In summary, this thesis serves as a call to action for policymakers, regulators, and industry stakeholders to prioritize accessibility and inclusivity within fintech innovation. By heeding the recommendations outlined herein, Kenya and other jurisdictions can pave the way for a more inclusive and equitable digital future, where no one is left behind.



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# Appendices

## Appendix A: Similarity Report

### Kelvin Nyaga

#### NYAGA KELVIN KIMANI FINAL THESIS.docx

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## Appendix B: Ethical Release Letter



4<sup>th</sup> April 2025

Kelvin Kimani Nyaga  
165848  
[kelvin.nyaga@strathmore.edu](mailto:kelvin.nyaga@strathmore.edu)

Dear Kelvin,


**RE: Enhancing Financial Inclusion: "Legal and Ethical Implications of Fintech Accessibility for Blind Users in Kenya**

This is to inform you that the Office of Graduate Studies on 4<sup>th</sup> April 2025 received your acknowledgement of breach in ethical processes given that you have already collected/analysed data and proceeded to write your Dissertation/Thesis prior to obtaining Ethical clearance. Consequently, it was noted that The Strathmore University Institutional Scientific and Ethical Review Committee (SU-ISERC) objected to reviewing your study since you have already collected data and written the Thesis. The scientific & ethical review/approval process is ONLY done before the commencement of any experiments, implementation or any collection of data (primary or secondary-including desktop review).

This is a letter for you to proceed with the next steps of your academic requirements.

Please be advised, that in future, all research proposals should be submitted to the SU-ISERC through the RHInno Ethics platform: <https://strathmoreuniversity.rhino.net/login>

**Disclaimer:** 1) This is not in any way an ethical approval letter. 2) Should there be any legal implications/actions emanating from the research in terms of any ethical violations, you will be personally liable.

Yours sincerely,   
Prof. Bernard Shiwabo  
Director of Graduate Studies

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