

Researcher: Stephen Ambore

Background

The mobile phone has changed the way we do things. One major area of change is the use of the mobile phone to conduct financial transactions in a way that was hitherto only possible in a physical bank. The use of mobile phones to provide financial services is known as Mobile Financial Services (MFS). MFS products include Mobile Banking (e.g easyMoney from Zenith Bank, and FirstMobile from First bank), Mobile Money (e.g Teasy,readycash) and Mobile Payment (paga, easyPay).

Purpose of Research

The purpose of this research is to develop a cybersecurity framework that will improve trust in the use of Mobile phones for the purpose of conducting financial transactions.

Why have I been chosen?

You have been chosen to participate in this research based on the fact that you use Mobile phones to conduct financial transactions.

Do I have to take part?

Taking part in this research is entirely voluntary and you can also pull out at any point in the research should you no longer wish to continue, but we would love to hear from you. The research will consist of surveys on experience from use of Mobile phones for financial transactions. You will require about **15-20 minutes** to complete the questionnaire.

Will my taking part in this project be kept confidential?

All the information that will be collected from you during the course of the research will be kept strictly confidential and no personal identifiable data will be required. You will not be able to be identified in any reports or publications.

What are the advantages and possible disadvantages or risks of taking part?

Whilst there are no immediate benefits for participants, it is hoped that this work will improve trust in the use of Mobile Financial Services and making access to financial service available to about 2 billion of the world’s population who currently do not have access to formal banking services. There are no foreseeable risks or discomfort expected in completing the survey questionnaire.

Contact for further information

Stephen Ambore

Email:sambore@bournemouth.ac.uk

Section 1: Participants Details	
Age Range	a. <input type="checkbox"/> 18-24 b. <input type="checkbox"/> 25-34 c. <input type="checkbox"/> 35-44 d. <input type="checkbox"/> 45-60 e. <input type="checkbox"/> 61 and above
Highest Qualification	a. <input type="checkbox"/> Primary School Certificate b. <input type="checkbox"/> Secondary School Certificate c. <input type="checkbox"/> Diploma Holder d. <input type="checkbox"/> 1 st Degree (Bsc., Btech. HND. etc.) e. <input type="checkbox"/> Postgraduate Degree (PGD, Msc., PhD.) f. <input type="checkbox"/> Others (Please Specify)
Occupation	<input type="checkbox"/> Accountant <input type="checkbox"/> Architect <input type="checkbox"/> Athlete <input type="checkbox"/> Artist <input type="checkbox"/> Actor/Actress <input type="checkbox"/> Artisan <input type="checkbox"/> Banker <input type="checkbox"/> Carpenter <input type="checkbox"/> Clergy <input type="checkbox"/> Consultant <input type="checkbox"/> Engineer <input type="checkbox"/> Economist <input type="checkbox"/> Farmer <input type="checkbox"/> Health Worker <input type="checkbox"/> IT Specialist <input type="checkbox"/> Lawyer <input type="checkbox"/> Lecturer <input type="checkbox"/> Mechanic <input type="checkbox"/> Medical Doctor

	<input type="checkbox"/> Military <input type="checkbox"/> Nurse <input type="checkbox"/> Para-Military <input type="checkbox"/> Police <input type="checkbox"/> Pharmacist <input type="checkbox"/> Photographer <input type="checkbox"/> Physical Security Professional <input type="checkbox"/> Project Manager <input type="checkbox"/> Researcher <input type="checkbox"/> Student <input type="checkbox"/> Trader <input type="checkbox"/> Teacher <input type="checkbox"/> Others (Please specify)
Sector	<input type="checkbox"/> Government <input type="checkbox"/> Energy <input type="checkbox"/> Bank <input type="checkbox"/> Insurance <input type="checkbox"/> Manufacturing <input type="checkbox"/> Education <input type="checkbox"/> Media <input type="checkbox"/> Construction <input type="checkbox"/> Small and Medium Scale Enterprises <input type="checkbox"/> Travels and Hospitality <input type="checkbox"/> Health <input type="checkbox"/> Pharmaceuticals <input type="checkbox"/> Retail <input type="checkbox"/> ICT <input type="checkbox"/> Telecommunication <input type="checkbox"/> Real Estate <input type="checkbox"/> General Merchandise <input type="checkbox"/> Agriculture <input type="checkbox"/> Non-Governmental organisation <input type="checkbox"/> Others (Please specify)
Average Monthly income	a. <input type="checkbox"/> ≤ ₦ 20,000 b. <input type="checkbox"/> ₦ 21,000 – ₦ 50,000 c. <input type="checkbox"/> ₦ 51,000 - ₦ 100,000 d. <input type="checkbox"/> ₦ 101,000 - ₦ 250,000 e. <input type="checkbox"/> ₦ 251,000 - ₦ 500,000 f. <input type="checkbox"/> ≥ ₦ 501,000

Section 2: Product type and means of use	
1. I use this phone type?	a. <input type="checkbox"/> iPhone b. <input type="checkbox"/> Samsung c. <input type="checkbox"/> Blackberry d. <input type="checkbox"/> HTC e. <input type="checkbox"/> Others (please specify)
2. I use this Mobile Financial Services (MFS) product (select all that apply)	a. <input type="checkbox"/> Mobile Payment (e.g paga, Ezpay) b. <input type="checkbox"/> Mobile Money (e.g teasy, readycash) c. <input type="checkbox"/> Mobile Banking d. <input type="checkbox"/> Others (please specify)
3. I have been using MFS for	a. <input type="checkbox"/> ≤6 months b. <input type="checkbox"/> 7-12 months c. <input type="checkbox"/> ≥12 months and beyond
4. My decision to use MFS was influenced by (select all that apply)	a. <input type="checkbox"/> lower cost of transaction compared to other means b. <input type="checkbox"/> It is more convenient than going to the bank c. <input type="checkbox"/> Ease of use d. <input type="checkbox"/> I can use it anywhere and at anytime e. <input type="checkbox"/> Others (please specify)
5. I set up the MFS on my phone by	a. <input type="checkbox"/> Downloading from the apps store b. <input type="checkbox"/> Installing via SDTK (SIM Development tool kit) c. <input type="checkbox"/> Was done for me by service provider d. <input type="checkbox"/> I am not sure e. <input type="checkbox"/> Others (please specify)
6. I use this connectivity option to enable me access MFS on my phone	a. <input type="checkbox"/> Wi-Fi only b. <input type="checkbox"/> Phone Data only c. <input type="checkbox"/> Both Wi-Fi and phone data, but more of Wi-Fi d. <input type="checkbox"/> Both Wi-Fi and phone data, but more of phone data

e. Others(please specify)

7. I predominantly conduct a MFS transaction via (select all that apply)

- a. Contactless(scanning)
- b. USSD(SMS like payment instructions e.g. *776#)
- c. Mobile App (app installed on phone)
- d. Others (please specify)

8. I secure my MFS through the following means (select all that apply)

- a. Token
- b. PIN
- c. Biometry
- d. Others (explain)

Section 3: Experience

9. The MFS I use is

- a. Easy to navigate
- b. Complex
- c. Meets my needs
- d. Secure
- e. Others (please specify)

10. It is difficult for me to complete a task on the MFS I use

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

11. I often experience errors in my transactions

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor Disagree
- d. Disagree
- e. Strongly Disagree

12. I often perform a single task several times due to the complexity of the MFS

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

13. I often perform a single task several times due to lack of sufficient knowledge

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

14. The most frustrating part of using the product for me is

		Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
a	I frequently forget my PIN					
b	Poor Network					
c	Unsatisfactory level of support from operators					
d	How to navigate the system					
e	How to be sure I did the right thing with my transactions					
f	Others (please specify)					

15. My financial details has been accessed by unauthorised persons via my mobile phone

- a. Never
- b. Seldom
- c. Usually
- d. Often
- e. Always

Section 4: Awareness

16. I share my phone with friends and family

- a. Never
- b. Seldom
- c. Usually
- d. Often
- e. Always

17. I use the same PIN for my phone and MFS

- a. Never
- b. Seldom
- c. Usually
- d. Often
- e. Always

18. I forget my MFS PIN

- a. Never
- b. Seldom
- c. Usually
- d. Often
- e. Always

19. I write down my MFS PIN or secret questions somewhere in my phone so I don't forget

- a. Never
- b. Seldom
- c. Usually
- d. Often
- e. Always

20. Please select the indicator that you agree with the most for each item in the table below

		Strongly Agree	Agree	Neither Agree Nor Disagree	Disagree	Strongly Disagree
a	PIN authentication is sufficient for me to access my MFS					
b	I would need an additional level of authentication to PIN, to improve my					

	confidence in the security of my MFS						
c	My bank/operator responds speedily to any fraud related issues I raise to them						
d	I know what to do to ensure no one accesses my sensitive financial details in the event I lose my phone						
e	I know my responsibility as a mobile account owner						
f	I know the banks/operators responsibility for ensuring I use MFS securely						
g	I know how to escalate any issue to the banks/operators						

21. I can differentiate real Mobile apps from rouge ones

- a. Yes, my bank/MFS operator showed me how
- b. Yes, it is on the FAQ from my bank/Operator
- c. Yes, due to my awareness of cybersecurity and Information Technology
- d. Yes, based on the website address
- e. Yes, based on source
- f. Yes, based on look and feel
- g. No, I cannot differentiate
- h. Others (Please explain)

22. Please select the indicator that tallies the most with your knowledge level of the items in the table below

		None	Basic	Average	A bit above average	Advance	Expert
a	Ransomware						
b	Spyware						
c	Smishing (SMS phishing)						
d	Mobile Malware						
e	Rogue applications						
f	Cybersecurity						
e	Data Privacy						

23. I received training/ sensitization on how to use MFS before I started using it

- a. yes
- b. No

23b. Training/Sensitization I received was sufficient

- a. yes
- b. No

24. I am aware that a procedure/process exists, to guide my action in the event I misplace my phone or suspicious transactions emanate from my phone

- a. Strongly Agree
- b. Agree
- c. Neither Agree nor disagree
- d. Disagree
- e. Strongly Disagree

25. No one else has access to my MFS account

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree

- d. Disagree
- e. Strongly Disagree

Section 5: Maintenance

26. I perform an upgrade of the Operating system I use for MFS

- a. As soon as it is available
- b. Never
- c. Seldom
- d. Always
- e. It is done automatically by my service provider
- f. I don't know

27. I perform an upgrade of the mobile application I use for MFS

- a. As soon as it is available
- b. Never
- c. Seldom
- d. Always
- e. It is done automatically by my service provider
- f. I don't know

28. The security of my MFS transaction depends on the update of my mobile phone operating system

- a. Always
- b. Often
- c. Usually
- d. Seldom
- e. Never

29. The security of my MFS transaction depends on the update of the mobile phone application I use for MFS

- a. Always
- b. Often
- c. Usually
- d. Seldom
- e. Never

30. I use a phone antivirus

- a. Always
- b. Often
- c. Usually
- d. Seldom
- e. Never

31. I update my phone antivirus

- a. Always
- b. Often
- c. Usually
- d. Seldom
- e. Never

Section 6: Usability

32. I am satisfied with the reliability of the MFS

- a. Extremely satisfied
- b. Very satisfied
- c. Somewhat satisfied
- d. Not so satisfied
- e. Not at all satisfied

33. The MFS I use is easy to navigate

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

34. I am satisfied with the available help options

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

35. The MFS I use is visually appealing

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

Section 7: Security

36. The financial transactions I conduct using MFS are protected from unauthorized disclosures

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor Disagree
- d. Disagree
- e. Strongly Disagree

37. The financial transactions I conduct using MFS are accurate and consistent throughout their life-cycle

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor Disagree
- d. Disagree
- e. Strongly Disagree

38. The MFS service I use is available and is at the required level of performance at all times

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor Disagree
- d. Disagree
- e. Strongly Disagree

Section 8: Social Context

39. I prefer a secure transaction than an easy to use MFS system

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

40. I will prefer an easy to use MFS than an MFS that is too complex to use because of security controls

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

41. I prefer an MFS system that is easy to use, yet secure

- a. Strongly Agree
- b. Agree
- c. Neither Agree Nor disagree
- d. Disagree
- e. Strongly Disagree

42. I am distracted or prone to making errors when conducting MFS transactions on my phone because of (select all that apply)

- a. In coming phone calls during transactions
- b. Environment of use
- c. Low battery life
- d. Weak network strength or poor network connectivity

e. Others (please specify)

43. The maximum daily transactions limit set by my bank/operator on my MFS is

- Too restrictive, I want more with same level of security
- Too restrictive I want more with increased level of security
- Too restrictive, I want more with reduced level of security
- Too relaxed, I want more with increased level of security
- Just fine
- Others (please explain)

Section 9: Additional Information

Please provide any additional information you might like to share based on your experience with MFS products

Thank you for contributing towards ensuring to a more user-centred and secure Mobile Financial Services applications.