



Africa International Journal of Management Education and Governance

© Oasis International Academic Journals, 2017

(ISSN:2518-0827)

www.oasiseduconsulting.com

MOBILE ECO-SYSTEM IMPACT OF GHANAIAI ECONOMY

Dr. Isaiāh Owsariāgo Miencha

HoD Banking and Finance, All Nations University – Ghana

P.O. Box KF 1908 Koforidua E/R

Email: isaiahmch@gmail.com

Mobile: +233200376654

Received on 27th September, 2017

Published on 5th Nov. 2017

Abstract

This paper focused the use of mobile phone in the banking industry its economic implications and general a look into the various forms of mobile banking on the security measures that makes the whole process safe for adoption. The mobile ecosystem is constantly changing. The roles of each other are of interest of researchers both in academia and globally various innovative uses the mobile phone to provide financial services to traditional banks. The mobile banking technology systems have implications for the general discussions about mobile telephone in the developing world. Existing study about the significance of mobile communications in the developing world has focused on voice and text messaging. More so emergence of mobile banking also underscore how innovations emerge from unexpected places and have the capability of reconfiguring the technology to its users offering a way to lower the costs of moving money from place to place and opening a way to bring more users into contact with new financial systems.

Key Words: *Mobile Phone, Banking, Ghanaian Economy*

Introduction

A mobile ecosystem is a common platform which allows a range of devices, such as smartphones, tablets and laptops to integrate efficiently with each other to share data. An ecosystem builds on making the existing infrastructure within a business more mobile ready granting stakeholders' easier access to files and ongoing projects.

Users can build up an ecosystem from just one device running a particular operating system, whether it be Apple's iOS, Google's Android or Microsoft's Windows. From here more devices can be added to build up the ecosystem meaning devices integrate efficiently with each other, improving communications and allowing instant access to project files and documents.

Definition

The notion of ecosystem originates from ecology. One definition in Wikipedia defines is an **ecosystem** as a natural unit consisting of all plants, animals and micro-organisms (biotic factors) in an area functioning together with all of the non-living physical (abiotic) factors of the environment.

- ❖ A **human ecosystem** consists of actors, the connections between the actors, the activities by these actors and the transactions along these connections concerning physical or non-physical factors. We further distinguish between commercial and social ecosystems.
- ❖ In a **commercial ecosystem** the actors are businesses, suppliers and customers, the factors are goods and services and the transactions include financial transactions, but also information and knowledge sharing, inquiries, pre- and post-sales contacts, etc.

- ❖ **Social ecosystems** consist of users, their social connections and the exchanges of various forms of information.
- ❖ A **Software Ecosystem** consists of software solutions that enable, support and automate the activities and transactions by the actors in the associated social or business ecosystem and the organizations that provide these solutions (Bosch, 2009). A software ecosystem is specifically a commercial ecosystem, and hence the goods and services are the software solutions and software services that enable, provide support for or automate activities and transactions.

Review of Literature

The article entitled (2013) **“Mobile Banking Adoption and Benefits Towards Customers Service”** by Sunil Kumar Mishra and Durga Prasad Sahoo. In the study order to achieve the goals of business, various channels of communications to customers have to be developed through technology. Mobile banking is one of the alternatives channels available to customer for quick and efficient service at anytime and anywhere. Banks can also use unbanked banking for increasing the efficiency of their staff create a platform for better customer service and improve relationship with their customers.

The working paper (2011). By Vijay. M. Kumbhar **“Scope and Problems of M- Banking solution for Unbanked: A review of Indian Economy”**. This paper focused with the help of modern information communication technology, m-banking as a new type of banking services carrier can provide efficient and effective financial services for unbanked and rural peoples in India. The outcome of the paper is a defined set of customer requirements to m-banking services in India and an explanation of major failure reasons along with opportunities for their improvement.

The article entitled **“The Mobile Economy India 2013”**. In this research report to analysis of overall GSMA Mobile operators to contribute GDP in India. The report to using analysis of BCG Matrix. The mobile sector makes an enormous economic contribution to the country, through direct employment by enabling an ecosystem of mobile product and service providers and through the productivity gains that mobile technology delivers across the whole of India’s economy. Combined these contributions amounted to 5.3% of GDP in 2012. In terms of employment the mobile ecosystem contributes directly to 7,30,000 jobs and an additional 2 million jobs when points of sale and distributors are included.

The paper entitled **“To Study Consumer Awareness & Perception Towards Usage Of Mobile Banking”** By Prof. Amit P. Wadhe And Prof Shamrao Ghodke. The research is an attempt to study the consumer awareness on mobile banking & perception about the same. The study shows that consumers are aware about mobile banking service provided by their bank. Consumers think that mobile banking is easy to use; it is very useful for them as it will give them flexibility to do transactions irrespective the time of day. Consumers think that major advantage of mobile banking is anywhere anytime banking

“Mobile Banking and Payment System Using Bluetooth Media” by Kheya Banerjee, Md. Masud Rana , Md. Margoob Mahfuz , Md. Amjad Khan. The considerable increase of mobile device users in recent years causes a strong demand on secured wireless bank services and reliable mobile commerce (m-commerce) applications. Since mobile payment (m-payment) & banking is a critical part of most wireless information services and mobile commerce applications. This work presents an effective mobile payment system (MPS) in existing wireless insecure environments using mobile devices. The proposed framework provides a secure and convenient payment

Objectives of the study

- To understand the mobile ecosystem support from Ghanaian Economy
- To enable the mobile banking in Ghana

Available of Ecosystem

There are currently three main ecosystems in place; Apple, Google and Microsoft. Although they are very different they all rely on cloud storage namely Apple's iCloud, Google Drive or Microsoft's SkyDrive. Users are able to store data onto a remote server so it can be wirelessly accessed anywhere from any device.

Apple was one of the first manufacturers to bring all its devices together, with the iOS operating system running on its iPhone, tablets, TV, laptops and desktop computers creating a unified platform. Because Apple produces all of its hardware and software the user experience across the devices is, by and large, the same.

The Google ecosystem is very different because of the operating system's open-source nature which enables various manufacturers to modify the Android software depending on the device it's being made for, be it Smartphone's, tablets, laptops or TVs. Whilst services such as Google Drive, Google Play and the rest of the Google suite of applications, including YouTube and Google Maps will be constant across the various devices, there is the issue of fragmentation to contend with. As many different iterations of Android are in use across different devices, apps installed on one piece of hardware may not be compatible with another the recently launched Google Now being a prime example.

In Windows 8 Microsoft has developed a platform which unites a range of devices with the same user interface. The new operating system looks to provide seamless navigation, unifying the user experience so it looks the same regardless of the device using it and meaning file types supported by one device will also be supported by another. Apps and programs will work the same whether you're accessing your data via a tablet, smartphone or laptop.

Benefits of Ecosystem in Business

- Users are able to share information across different devices without having to use wires or cables.
- Cloud services mean data recovery is easy if it's lost, damaged or stolen. There have been security concerns about the cloud services because users don't know exactly where their data is stored or who has access to it. However, a number of mobile management solutions are available for businesses to control the amount of access users have to particularly sensitive or confidential data.
- Cloud storage services such as iCloud and SkyDrive also make for a seamless user makes work projects easier to share in a secure manner.
- Data on one device can be picked up in exactly the same format on another, which is very useful if colleagues want to work on the move. It also lets users avoid duplicating content, because users across the business will be able to see what projects are being worked on and amended.
- If everyone in a business uses the same software it makes it even easier to chop and change devices.

The future hold for mobile ecosystems

The launch of Windows Phone 8 has signalled a huge move in mobile technology by integrating PC-like capabilities such as the Office suite into other devices. Cloud storage services such as SkyDrive and shared Dropbox accounts make for hassle-free sharing and access to files from any device, whether working from the office or remotely.

Improved front-facing cameras are increasingly featuring on new mobile devices too, which when coupled with VoIP services such as Skype and FaceTime's closer integration with operating systems,

means conference calls are easier than ever. These are just some of the ways in which a mobile ecosystem could work to benefit your business and your client base, which in this ever-changing complex digital world can't be a bad thing.

Mobile Banking

Mobile banking is a system that allows customers of a financial institution to conduct a number of financial transactions through a mobile device such as a mobile phone or tablet. Mobile banking differs from mobile payments, which involve the use of a mobile device to pay for goods or services either at the point of sale or remotely, analogously to the use of a debit or credit card to effect an EFTPOS payment.

The earliest mobile banking services were offered over SMS, a service known as SMS banking. With the introduction of smart phones with WAP support enabling the use of the mobile web in 1999, the first European banks started to offer mobile banking on this platform to their customers.

Mobile banking has until recently (2010) most often been performed via SMS or the mobile web. Apple's initial success with iPhone and the rapid growth of phones based on Google's Android (operating system) have led to increasing use of special client programs, called apps downloaded to the mobile device. With that said advancements in web technologies such as HTML5, CSS3 and JavaScript have seen more banks launching mobile web based services to complement native applications. A recent study (May 2012) by Mapa Research suggests that over a third of banks have mobile device detection upon visiting the banks' main website. A number of things can happen on mobile detection such as redirecting to an app store, redirection to a mobile banking specific website or providing a menu of mobile banking options for the user to choose from.

Mobile Banking-Application based

All banks which has received the approval from Bank of Ghana for mobile banking are offering the application-based mobile banking channel to their customers. Customers can download the mobile banking application and perform variety of services including the following:

- a) Non-financial transactions such as
 - Balance Enquiry
 - Mini statement
 - Cheque Book request
- b) Financial transactions such as
 - Funds transfer
 - mobile / DTH recharge
 - bill payments, etc

The mobile application is offered on various platforms such as Java, Symbian, Blackberry OS, Windows, Android, Apple OS, etc. Many Banks have made the mobile application available in the app stores such as Google, Apple, Blackberry, etc for easy search and download by the customers.

Advantages of the application based mobile banking

Following are the advantages of the application based mobile banking,

A) Applications once downloaded is easy to use for the customers who are proficient in using the smart phone based applications.

B) Banks have made these applications compliant with most of the latest operating systems covering the large range of smart phones in use.

C) It has been experienced by the banks that once customer has used the application based mobile banking he continues to use the same unless there is a change of the handset and/or mobile number.

D) The application based mobile banking can also communicate using SMS and GPRS (Data) channels with the mobile banking system of the bank.

Challenges faced of the application based mobile banking

Following are some of the challenges faced with application-based channel for mobile banking by the banks:

A) Banks need to develop and test the application on the variety of handsets and operating system version combinations (in excess of 1,000 combinations). It is very difficult for banks to develop, test and roll out such an initiative for mobile banking services

B) Customer needs to have compatible handset for download and installation of mobile application which is normally communicated to the customers by means of bank website

C) Customer needs to have GPRS subscription in order to download application and perform transactions

d) In case of any enhancement or change, customer needs to upgrade the application

Because of the above challenges, the application-based mobile banking has not picked up to the desired levels.

Recommended solution

Following are some of the recommended solutions

A. Common application for mobile banking may be standardized across all banks and having minimum required transaction set for all banks. This would also facilitate in educating the bank customers.

B. Mobile banking application may allow transaction over SMS, USSD and GPRS channels also. (The mobile banking application may encrypt the SMS before sending, so that it is end-to-end secure, even for transaction of higher value.)

C. This application can be used by any user (customers, merchants, agents) irrespective of the bank with which they have an account

Customers can avail the standard menu and transaction services through common mobile application which includes operations such as Generation and changing M-PIN, person to person funds transfer using only mobile number, banking services such as Balance Enquiry, Mini Statement, Cheque Book Request, etc., merchant payments, value added services such as Mobile top-up, DTH top-up, Bill Payments etc.

Benefits of Common mobile application

All the challenges in point 4 above can be overcome by common mobile banking application

Recommendations - Application based mobile banking

The Common mobile application may be developed and distributed which may have standard common menu containing the minimum and most required transaction set.

List of countries using Mobile Banking

Rank	Country	Usage in 2013
1	South Korea	47%
2	China	42%
3	Hong Kong	41%
4	Singapore	38%
5	Ghana	17%
6	Spain	34%
7	United States	32%
8	Mexico	30%
9	Australia	27%
10	France	26%

Source: wikipedia.org

Economic Impact of the Mobile Ecosystem in Ghana

A strong correlation exists between mobile penetration and GDP growth, with mobile technology contributing to increased productivity, creation of new jobs and businesses and increased public funding through the generation of tax revenues. In 2012, Ghanaian mobile operators made a significant economic contribution, accounting for 0.8 percent of GDP, with the total mobile ecosystem representing 1.3 percent of GDP that year.

Mobile banking is a system that allows customers of a financial institution to conduct a number of financial transactions through a mobile device such as a mobile phone or tablet. Mobile banking differs from mobile payments, which involve the use of a mobile device to pay for goods or services either at the point of sale or remotely,

Socio-Economic Impact of Mobile Technologies

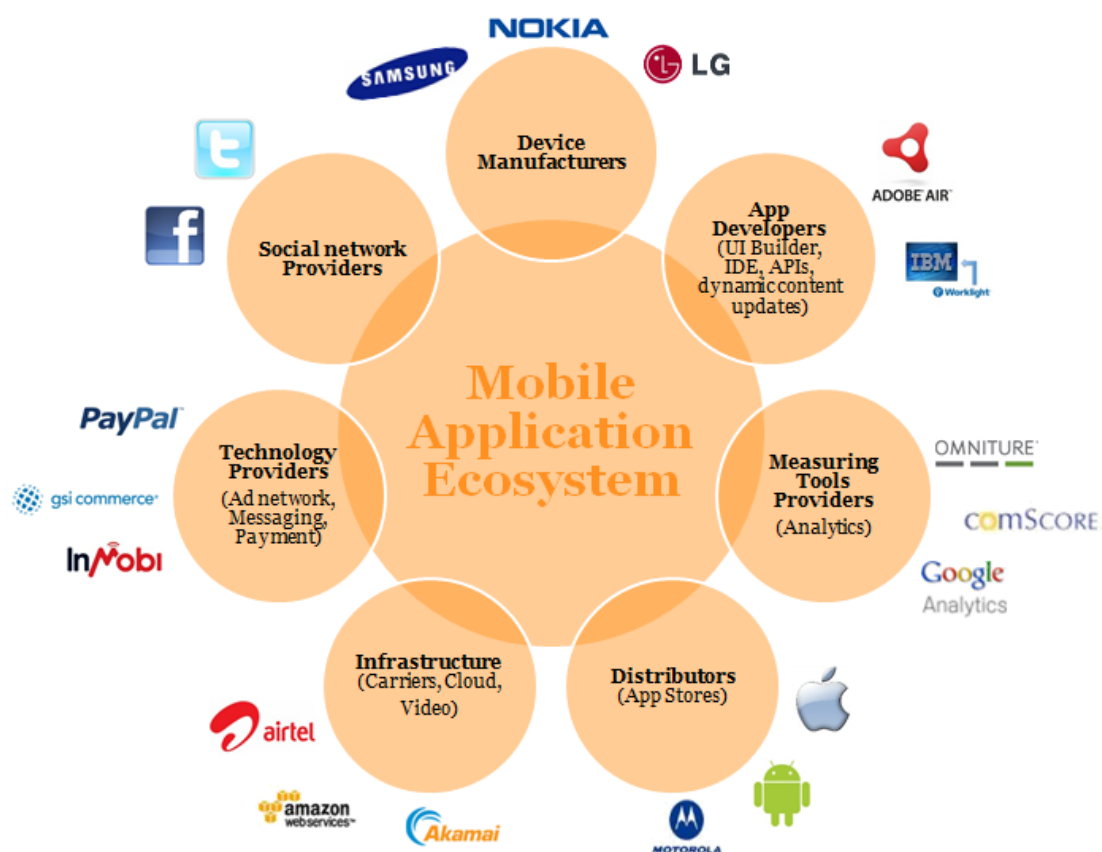
For the higher income groups ,mobile devices deliver a richer set of services more through a convenient and accessible platform, often lowering the cost of healthcare, improving the quality of both healthcare and education and making financial services available at the touch of a keypad.

FINANCIAL SERVICES	HEALTHCARE
<ul style="list-style-type: none"> ✓ Increase convenience ✓ Alternative transaction methods ✓ Contactless payments ✓ Reduces fraud ✓ Potential to reduce costs ✓ 70% reduction in merchant fees 	<ul style="list-style-type: none"> ✓ Potential to reduce costs of the healthcare system ✓ 25% savings in elderly care ✓ 60% reduction in hospital nights ✓ Improve quality and efficiency of healthcare ✓ Empowers public to prevent and manage non-communicable diseases
AGRICULTURE	EDUCATION
<ul style="list-style-type: none"> ✓ Improve tracing of organic products through supply chain 	<ul style="list-style-type: none"> ✓ Improve teaching methods

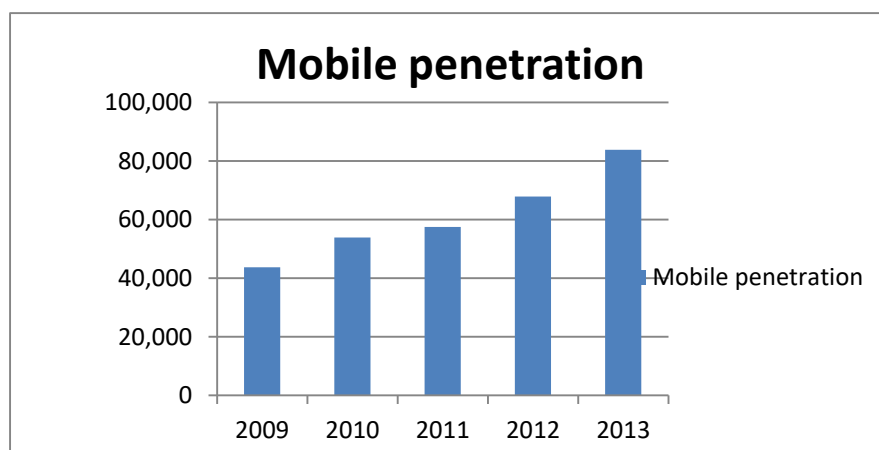
<ul style="list-style-type: none"> ✓ Remote monitoring of crops in isolated locations ✓ Access agronomy information via smart-phone apps 	<ul style="list-style-type: none"> ✓ Reduce cost of private tutoring and supplemental courses ✓ Skill improvement via collaborative platforms
--	---

Contribution to GDP by the Ghanaian Ecosystem

The overall mobile ecosystem, including suppliers of infrastructure and support services, handset manufacturers and content and app providers, contributed 1.3 percent (Ghc.1.27 Million) to Ghana's GDP in Ghana's GDP in 2012.



Mobile penetration Vs GDP

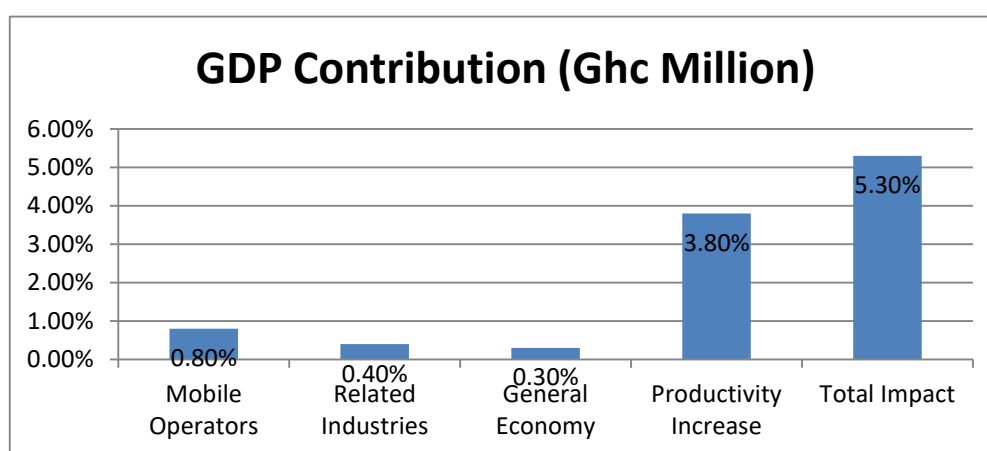


In above charts represents every year to increase Gross Domestic Price (2008-2012) positively mobile penetration also to support Ghanaian economy in last few years

Total Economic Impact of the Mobile Value Chain

Telecom Value Chain	GDP Contribution (Ghc Milion)
Mobile Operators	0.8%
Related Industries	0.4%
General Economy	0.3%
Productivity Increase	3.8%
Total Impact	5.3%

Source: collected from GSMA Mobile Economy Ghana Report 2013



In the charts shows the Telecom value chain to support chain to support from GDP contribution in mobile operators 0.80 percent and Related Industries 0.40 percent, General Economy 0.30 percent, Productivity Increase 3.80 percent, Total Impact 5.30 percent.

Job Created by the Mobile Ecosystem

The mobile ecosystem contributes directly to 730,000 jobs in Ghana and an additional 2 million jobs when points of sale and distributors are included.

Employment	Job's (1000)
Mobile Operators	1,49,000
Related Industries	5,81,000
Mobile Ecosystem Direct Employment	7,30,000
Indirect Employment	20,00,000
Total	27,30,000

Source: Collected from Bank of Ghana Mobile Economy Ghana Report 2013

Conclusion:

While a large majority of the mobile services available in Ghana are based on 2G technology the country has seen the adoption of 3G accelerate in recent months. With improved spectrum pricing and management, growth of mobile broadband service is expected to continue, with 3G and 4G adoption projected to increase by 31% in 2013.

The mobile sector makes an enormous economic contribution to the country, through direct employment by enabling an ecosystem of mobile product and service providers and through the productivity gains that mobile technology delivers across the whole of Ghana's economy. Combined these contributions amounted to 5.3% of GDP in 2013. In terms of employment the mobile ecosystem contributes directly to 7, 30,000 jobs and an additional 2 million jobs when points of sale and distributors are included.

REFERENCES:

1. Ghosal S. N. (2010) Mobile Banking for Inclusive Growth, *PNB quarterly journal*, vol. VI no. 1, january-march-2010 www.pnbiit.com/download/JanMar10.pdf
2. http://en.wikipedia.org/wiki/mobile_banking- accessed on 02/12/2011
3. TRAI, Annual Report 2009-10
4. GSMA The mobile economy India Report-2013
5. Sunil Kumar Mishra and Durga Prasad Sahoo. (2013) "Mobile Banking Adoption and Benefits Towards Customers Service"
6. Vijay. M. Kumbhar (2011). "Scope and Problems of M- Banking solution for Unbanked: A review of Indian Economy".
7. Wadhe A. P. and Ghodke, S.. "To Study Consumer Awareness & Perception Towards Usage of Mobile Banking"
8. Kheya Banerjee, Md. Masud Rana , Md. Margoob Mahfuz , Md. Amjad Khan. "Mobile Banking and Payment System Using Bluetooth Media"