

# Mobile Money in an Emerging Small Island Economy

HARSHANA KASSEEAH and VERENA TANDRAYEN-RAGOOBUR

Department of Economics and Statistics, Faculty of Social Studies and Humanities,  
University of Mauritius, REDUIT, Mauritius

## ABSTRACT

This paper examines the relevance of mobile money services in the small island economy of Mauritius. Although so far the use of mobile money in the developing world has been investigated in terms of its relevance to poverty alleviation, this paper shows that mobile money has an important role to play in the upper-middle income country like Mauritius as it may enhance the business environment and the potential for doing business in the island economy. With the high level of financial development in Mauritius, the use of mobile money can help to make transactions faster, cost-effective and more efficient. Mobile money services may in essence serve as a business facilitating tool to promote investment and the ease of doing business in Mauritius.

**Keywords:** *Mobile Money Services, Cost-Effective, Regulation*

## 1. INTRODUCTION

Mobile money is a suite of financial services offered through mobile phones and other handheld mobile devices. These services can include 1) person-to-person transfer of funds, such as domestic and international remittances, 2) person-to-business payments for the purchase of a range of goods and services, and 3) mobile banking, through which customers can access their bank accounts, pay bills, or deposit and withdraw funds [1]. Mobile money services (henceforth referred to as MMS) can benefit countries in a number of ways. First, it enables faster and more efficient financial transfers, increasing the volume of trade and subsequent payments to workers and their families. This dynamic is especially important for informal trade, which is practiced primarily by low-income, unbanked international, regional and local people. Second, MMS greatly increases access to finance for a large segment of the unbanked people in developing countries.

The mobile money industry has grown significantly in scope and sophistication over the last decade. While the number of deployed mobile money initiatives more than doubled in the last year, reaching more than 120 [2], the challenges of realizing mobile money's full potential as a market opportunity and as a poverty alleviation tool, have also become better recognized. For mobile network operators, a market sizing study by CGAP and GSMA in 2009 found that the average revenue per user for mobile money customers is 74 percent higher than that of non-mobile money customers.

This paper investigates the various types of mobile money services provided in Mauritius. Mauritius being a small island developing economy where in terms of its population size has a small market compared to for instance, Madagascar. Moreover the majority of the population still uses traditional banking services and one may argue that Mauritius offers less potential for a classic mobile wallet

service or person to person money transfers. However, being an upper-middle income country, the level of financial development in Mauritius is quite high and it offers a vibrant business environment so new forms of innovation and technology like mobile money services may enhance the position of Mauritius as a business destination. There is a good bank penetration and the number of bank branches per 100,000 inhabitants is at 23.

This study shows that although mobile money services do not play the same roles in Mauritius as they do in the rest of the sub-Saharan African continent in terms of poverty alleviation, it still has a major role to play in promoting the business environment and potential of the island economy, as it helps to make transactions faster, simpler and more efficient. The rest of the paper is organized as follows: Section 2 reviews the literature on mobile money services in Sub Saharan Africa. Section 3 provides the country background and the situational analysis of Mauritius. Section 4 discusses the different mobile money services in Mauritius. Finally, we conclude in section 5.

## 2. MOBILE MONEY AND POVERTY ALLEVIATION

Mobile phones have evolved in a few short years to become tools of economic empowerment for the world's poorest people. In developing countries, mobile phones compensate for inadequate infrastructure, such as bad roads and slow postal services, allowing information to move more freely, making markets more efficient and unleashing entrepreneurship. All this has a direct impact on economic growth: an extra ten phones per 100 people in a typical developing country boosts GDP growth by 0.8 percentage points, according to the World Bank. More than 4 billion handsets are now in use worldwide, three-quarters of them in the developing world. Even in Africa, four in ten people

now have a mobile phone [3].

With mobile phones now so commonly in use, mobile money allows cash to travel as quickly as a text message. For instance, across the developing world, corner shops are where people buy vouchers to top up their calling credit. Mobile-money services allow these small retailers to act like bank branches. Hence, the development potential of mobile money rests in its ability to facilitate financial sector inclusion. For the mobile money industry, Mobile Network Operators have had much greater success than traditional financial institutions reaching low-income consumers. New estimates predict that by 2012, the number of people with mobile phones but without bank accounts is estimated to grow from 1 to 1.7 billion [4]. The platforms exist and the challenge is to incorporate financial services for previously unbanked consumers.

Mobile money is expected to play an important role in providing both market opportunities and a poverty alleviation tool [5]. Large sections of the African population do not have access to banks and/or do not have bank accounts. These people are classified as 'unbanked,' 'under-banked,' and 'under-bankable'. Mobile money platforms can be an important tool for the financial inclusion of people in African countries without bank accounts and limited or no access to banking services. Developing mobile banking capacity offers great potential for facilitating trade in both goods and financial services.

By far the most successful example of mobile money is M-PESA, launched in 2007 by SAFARICOM of Kenya [6]. M-PESA first became popular as a way for young, male urban migrants to send money back to their families in the countryside. Currently, its use has evolved. It is now used to pay for everything from school fees to taxis. Similar schemes are popular in the Philippines and South Africa.

Studies like [7] assess the adoption and use of mobile money services in Uganda and Tanzania. Their work also delves into social and cultural factors that have positive and/or negative effects on the adoption of mobile money services. Another study [8] investigates the use and impact of mobile money services among 21 women groups as a tool for poverty alleviation. They find that money mobile services in Nigeria has indeed promoted more economic transactions in the rural areas and led to rural development and thus poverty alleviation. Another study conducted by the Institute for Money, Technology and Financial Inclusion indicates that the Nigerian population was ready for mobile money, particularly mobile money transfer services. Although mobile money services had not yet been offered in Nigeria, a near majority of the 'banked' sample and a third of the 'unbanked' sample had experience with money transfer using airtime top up.

Extending mobile money to other poor countries, particularly in Africa and Asia, would have a huge impact. It is a faster, cheaper and safer way to transfer money than the alternatives, such as slow, costly transfers via banks and post offices, or handing an envelope of cash to a bus driver. Rather than spend a day travelling by bus to the nearest bank, recipients in rural areas can spend their time doing more productive things. The incomes of Kenyan households using M-PESA have increased by 5-30% since they started mobile banking, according to a recent study. Kenya's success story has demonstrated mobile money's potential, and its benefits are starting to be more widely appreciated. Mobile money presents a shining opportunity to start a second wave of mobile-led development across the poor world [3].

### 3. SITUATIONAL ANALYSIS OF MAURITIUS

Mauritius is termed an "African success story" as the country has rapidly achieved the status of an upper middle-income country. Many researchers have provided explanations for the Mauritian success story [9], [10], [11]. Mauritius has a diversified economy and is an example for many African countries, with an average GDP growth of around 5 per cent. Financial development has been an important ingredient in the economic success of the country. The domestic credit provided by the banking sector as a ratio of GDP increased from 71 percent in 2000 to 111 percent in 2010.

The ICT sector in Mauritius has been contributing to 8 percent of GDP in 2011 and the Information Development Index for Mauritius has improved from 3.30 in 2008 to 3.44 in 2009. In 2009, the number of internet subscribers attained 286,000, which is an increase of 43.4 percent relative to 199,500 in 2008. The number of Mauritians using internet banking was 131,628 in June 2010, representing a 21 percent rise relative to December 2009. Mauritius is actively pursuing a policy to make telecommunications the fifth pillar of its economy and to become a regional telecom hub with Singapore as a role model. The market penetration in 2011 was 94 percent for mobile, 30 percent for fixed lines and 29 percent for internet. A recent ICT report from the CSO indicates that 87.5 percent of Mauritian households had a cellular mobile phone.

Table 1 below shows the ICT infrastructure for the period 2006-2010 in Mauritius. There are two main fixed-lined service providers while there are two main mobile cellular service providers. Although Mauritius is performing well in the telecommunication sector and has also a booming financial services and banking sector, mobile money services are not yet very popular in the country. This is reflective of the fact that mobile payment adoption is currently lower in more developed countries like the United

<http://www.ejournalofscience.org>

States, where most people have banks accounts and the mobile phone is evolving as merely another payments delivery channel augmenting existing financial products and services [12].

**Table 1:** The ICT Infrastructure 2006-2010

	2006	2007	2008	2009	2010
Number of fixed-line telephone service providers	2	2	2	2	2
Number of mobile cellular service providers	3	3	3	3	3
Number of Internet service providers	7	8	9	9	9
Percentage of population covered by mobile telephony	98.0	99.0	99.0	99.0	99.0

Source: Information and Communication Technologies Authority (ICTA) and National Computer Board (NCB)

#### 4. Mobile Banking and E-Money Services in Mauritius

Although so far the study of the use of mobile money services in Africa has focused exclusively on the financial inclusion and poverty alleviation aspect, the Mauritian case is different. Mauritius started with a relatively low level of national poverty in comparison to other African countries. Its development process of moving from an economy based on agriculture to one increasingly oriented towards manufacturing, services and exports appears to provide part of the explanation for the fall in its national headcount rate at USD 3 from 5.8 percent in 2001 to 4.1 percent in 2006 [13]. In Mauritius, the absolute poorness indicators show that the change from 2001 to 2006 has decreased absolute poverty [13]. Table 2 gives data on ICT access in Mauritius and indicates that there has been a rise in the number of mobile phone subscribers from 2006 to 2010.

**Table 2:** ICT Access in Mauritius 2006-2010

	2006	2007	2008	2009	2010
Fixed telephone lines ('000)	357.3	361.3	363.5	375.2	405.2
Fixed telephone lines per 100 inhabitants	28.4	28.6	28.6	29.4	31.6
Mobile	772.4	928.6			

cellular subscribers ('000)			1,033.3	1,086.7	1,190.9
Pre-paid	723.6	871.4	969.8	1,013.0	1,099.2
Postpaid	48.8	57.2	63.5	73.7	91.7
Mobile cellular subscribers per 100 inhabitants	61.5	73.4	81.2	85.0	92.8

Source: Information and Communication Technologies Authority (ICTA)

The use of mobile money services is expected to improve the quality of life of citizens in a sustainable manner. Mobile money is useful as it avoids the need to queue up at banks to withdraw cash or queue up to make payments, and is also a safer way to make and receive payments as there is less need to carry cash around. Moreover, money transfer services for both domestic and international remittances are shifting from traditional providers to wireless carriers who are able to compete for consumer market share on the basis of technological and lower cost services. Developments in mobile services are expected to increase competition and lower prices, thereby discouraging the flow of money through informal channels.

The two main mobile network operators in Mauritius are Mauritius Telecom/Orange and EMTEL. Both service providers provide mobile money services. Orange Money is the newest service offered by Mauritius Telecom / Orange. This new service allows Mauritians, whether they are subscribed to Orange or not to pay their bills by phone (fix and orange post paid). Specifically, users are able to pay their electricity bill by mobile phone. This mobile payment service brings comfort and security and the service also allows users to pay their bills where they are, at the time they want and with all mobile phone brands. EMTEL provides the m-Payment service, which is a safe new way to pay postpaid phone bills using a mobile phone. EMTEL customers can now securely pay postpaid mobile bills without sharing their personal financial information with anyone. EMTEL m-Payment is also a safe and convenient way to pay from their mobile phone.

Other services provided by EMTEL include: EMTEL Easy transfer, who allows the transfer of credit from one EMTEL prepaid mobile to another. Users are allowed to transfer a minimum of Rs. 5 and up to Rs. 1000 per day on as many mobile numbers as they wish in Mauritius, Rodriguez and AGALEGA. The benefits of EMTEL Easy transfer are that it is fast and easy to use and the service is available 24/7. Customers do not need to go out to recharge account of their kids or family. They are

<http://www.ejournalofscience.org>

able to transfer their credit securely with a password-protected system even when abroad. Another service provided by EMTEL is the EMTEL Mobile Banking, which allows EMTEL customers to check their bank transactions on their mobile 24/7. The service is available for both Prepaid and Postpaid customers.

Some banks in Mauritius are also offering mobile inter-banking service, where customers can do several things on their mobile: check their account balance, view their account details, their last transactions and perform transfers within accounts at the same bank and other banks. Customers of mobile inter-banking service are also able to refill their prepaid mobile phone with credit. They can also pay their bills.

Among other E-money services, the services of mobile money services are also offered by one firm that allows Mauritius mobile money transfers at the very best MUR exchange rates and lowest costs using their 24 hour online mobile money transfer system. Clients from abroad have the option to transfer mobile money to family and friends in Mauritius in cash for pickup at any one of their collection points around Mauritius. The firm also provides other mobile money services include Electronic bank transfer of Mauritian rupees directly into a bank account held in Mauritius from various countries in the world including Canada, USA, UK and others. Mauritian mobile money transfers are therefore quick, simple and easy and zero commissions can be charged on mobile money transfers which proves a more cost-effective way of transferring money. Users are able to book live Mauritius rupee mobile money transfers and exchange rates online 24 hours a day and the cash collections are made countrywide. They can also benefit in some cases of zero commissions charged. Another non-bank financial intermediary offers the 'Pay Mobile' service which allows customers the freedom and convenience to make credit card payments via their mobile phones in all safety and security.

## 5. CONCLUSION

This paper has explored the relevance of mobile money services in Mauritius. We show that although Mauritius has a well-developed financial system and the level of bank development is quite high, mobile money services will indeed bring certain advantages. For instance, mobile money services will help to make transactions faster, easier and more efficient. Mobile money will allow people to avoid queues while receiving and making payments. It is also a safer way to make and receive payments. There is also less need to carry cash around and users can enjoy the convenience of making their credit transactions anywhere and anytime using their mobile phones. Paperless credit transactions can be made at any time convenient and in a fully secured manner.

Regulators have an important role to play in the maintenance of public confidence in financial services and markets. Regulation is also an important aspect of mobile money services as it helps to create and maintain an enabling environment for businesses. Regulators have to view mobile money services as being different from traditional banking services. To enable mobile money to thrive, it is important that inflexible and stringent rules are not applied to mobile money operators. Opening a bank account for people who want to sign up for mobile-money services, but without bank accounts should not be made difficult but should be a simple and easy process. Concerns about money-laundering can be dealt with by imposing limits (typically \$100) on the size of mobile-money transactions, and on the maximum balance. To further promote the use of mobile money services, inflexible rules governing the types of establishments where cash can be paid in should also be relaxed [3].

Banks should view mobile money not as a threat but as an opportunity, and should team up with operators. Mobile money, indeed offers new opportunities and challenges to banks. The banking sector should see mobile money as an exciting chance to exploit telecoms firms' vast retail networks and powerful brands to reach new customers. Indeed, tie-ups between banks and operators will help reassure regulators [3]. Mobile money operators should also take all necessary measures especially when dealing with credit card information and also comply with the relevant applicable laws.

As stated by [14] telecommunication companies and financial institutions have interests in making mobile money services work. Telecommunication companies can use e-money, as a strategy for keeping churn rates low and retain customer loyalty [15], [16]. Mobile money services can provide telecommunication companies with new potential customers, added sources of revenues (e.g. transaction fees, share of foreign exchange spread, service sign-up fees, etc), and help increase their average revenue per user. At the same time for financial institutions, providing mobile money services, mobile banking and mobile money can help increase banking penetration, develop customer loyalty, reduce operational costs, meet government service obligations [15], [17].

## REFERENCES

- [1] Jenkins, B. (2008) "Developing Mobile Money Ecosystems," Washington, DC: IFC and the Harvard Kennedy School.
- [2] CGAP/ GSMA (2009) "Mobile Money for the Unbanked," Annual Report.
- [3] The Economist (2009), "Telecoms: The Power of Mobile Money"

<http://www.ejournalofscience.org>

- Available at <http://www.economist.com/node/14505519>
- [4] Pickens, M (2009) "Window on the Unbanked: Mobile Money in the Philippines." CGAP Brief (December). [http://www.cgap.org/gm/document/1.9.41163/BR\\_Mobile\\_Money\\_Philippines.pdf](http://www.cgap.org/gm/document/1.9.41163/BR_Mobile_Money_Philippines.pdf).
- [5] Dolan, J. (2009) "Accelerating the Development of Mobile Money Ecosystems," Washington, DC: IFC and the Harvard Kennedy School.
- [6] Hughes, N. and S. LONIE (2007) "M-PESA: Mobile Money for the "Unbanked": Turning CELLPHONES into 24-Hour Tellers in Kenya," Innovations: Technology, Governance, Globalization 2 (2-1) 63-81.
- [7] MOSHY, B. and P. MUKWAYA (2011) "An Assessment of Adoption and Use of Mobile Money Services in East Africa: Case Studies from Uganda and Tanzania," available at [http://www.imtfi.uci.edu/imtfi\\_2011\\_moshy](http://www.imtfi.uci.edu/imtfi_2011_moshy). "Nigerian Mobile Money Knowledge and Preferences: Highlights of Findings from a Recent Mobile Money Survey in Nigeria," Institute for Money, Technology and Financial Inclusion Working Paper 2011-1.
- [8] KIITI, N. and J. MUTINDA (2011) "Mobile Money Services and Poverty Reduction: A Study of Women's Groups in Rural Eastern Kenya," Institute for Money, Technology and Financial Inclusion Working Paper 2011-2.
- [9] Subramanian, A. and D. Roy (2001) "Who Can Explain the Mauritian Miracle: Meade, ROMER, Sachs, or RODRIK?" IMF Working Paper WP/01/116.
- [10] Frankel J. A. "Mauritius: African Success Story" NBER Working Paper 16569.
- [11] ZAFAR, A. (2011) "Mauritius: An African Success Story published in Yes, Africa Can: Success Stories from a Dynamic Continent," The International Bank of Reconstruction and Development.
- [12] MERRIT, C. (2010) "Mobile Money Transfer Services: The Next Phase in the Evolution on Person-to-Person Payments," Retail Payments Risk Forum White Paper, Federal Reserve Bank of Atlanta.
- [13] DUCLOS, J-Y and A. VERDIER-CHOUCANE (2011) "Analyzing Pro-Poor Growth in Southern Africa: Lessons from Mauritius and South Africa", African Development Review, Vol. 23, No 2, June 2011, 121-146.
- [14] ALAMPAY, E. (2010), Mobile Banking, Mobile Money and Telecommunication Regulations (2010). Available at SSRN: [HTTP://ssrn.com/abstract=1618166](http://ssrn.com/abstract=1618166) or <http://dx.doi.org/10.2139/ssrn.1618166>
- [15] WISHART, N. (2006) Micro-payment systems and their application to mobile networks: Examples of Mobile enabled services in the Philippines." INFODEV.
- [16] BÅNGENS, Dr. L. and B. SÖDERBERG (2008) "Mobile Banking –Financial Services for the Unbanked?" The Swedish Program for ICT in Developing Regions, SPIDER
- [17] GSM Association [GSMA] (2008) "Introduction to Mobile Money Transfer" Available at [http://www.gsmworld.com/documents/GSMA\\_Introduction\\_to\\_MMT\\_0908.pdf](http://www.gsmworld.com/documents/GSMA_Introduction_to_MMT_0908.pdf)