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Melissa Siegel and Sonja Fransen

Maastricht Economic and social Research institute on Innovation and Technology (UNU-MERIT)
email: info@merit.unu.edu | website: http://www.merit.unu.edu

Maastricht Graduate School of Governance (MGSoG)
email: info-governance@maastrichtuniversity.nl | website: http://mgsog.merit.unu.edu

Keizer Karelplein 19, 6211 TC Maastricht, The Netherlands
Tel: (31) (43) 388 4400, Fax: (31) (43) 388 4499

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New Technologies in Remittances Sending: Opportunities for Mobile Remittances in Africa

Melissa Siegel[1]
Maastricht Graduate School of Governance, Maastricht University

Sonja Fransen[2]
Maastricht Graduate School of Governance, Maastricht University

Abstract

Mobile remittances have a high development potential as they hold the promise of providing quick, easy and cheap money transfers. In Africa mobile phone usage has increased sharply and mobile banking providers are extending their services, enabling greater opportunities for mobile remittances. The rise of mobile banking in Africa, however, differs substantially across countries, mainly due to a lack of financial infrastructure. Consequently, the opportunities that mobile banking offers for mobile remittances vary geographically. The services provided do not always meet the needs of remittance senders and the African remittances market is generally under-acknowledged as an important market by providers. Restrictive financial regulations play a key role as well. Mobile remittances have the potential to become an important and revolutionary tool for remittances sending in Africa. Effective policies should therefore address the limitations in the regulatory and financial infrastructure for mobile banking to become the foundation for mobile remittances.

Keywords*:* Remittances, mobile remittances, Africa, innovation, technology, development

JEL codes: Y, Z

[1] Melissa.siegel@maastrichtuniversity.nl.

[2] Sonja.fransen@maastrichtuniversity.nl.

1. Introduction

Remittances, the money that migrants send back to their home countries, have gained increasing attention in the international development debate over the last years, due to their potential to alleviate poverty and stimulate development.[3] Recently, increasing policy pressure has been put into place to try to formalize remittances, which has led to stimulation and innovation in the market for remittance transfers. When looking for new and more effective ways of remittance sending, much attention is paid to technological innovations (USAID & DFID, 2005), such as mobile remittance services. This is a payment system whereby individuals can make financial transfers via their mobile phones. These types of innovations are considered to lower prices for remittances and increase easy access for remittances senders and receivers, especially in areas that are difficult to reach. As USAID & DFID (2005: 1) argue: "Of the new technologies offering improvements to remittance services and reductions in transaction costs, mobile phones hold the greatest promise for Africa and the remote corners of Asia and Latin America".

Currently, the usage of mobile phones is widespread and considered beneficial for development processes in developing countries (see e.g. Scott et. al, 2004). Between 1999 and 2006 the percentage of people in Africa having access to a mobile phone signal increased from around 5 to an estimated 60 percent (World Bank, 2010). In 2008 in Sub-Saharan Africa, the number of people using mobile phones was higher than the number of people owning bank accounts (World Bank, 2008). In terms of remittance sending, the mobile system therefore provides many opportunities.

Technological innovations to facilitate remittances are seen as offering a great potential as they rely on existing systems of mobile phone networks and mobile banking services and are thus relatively easy to realize (USAID and DFID, 2005). Technological innovations that are based on existing financial infrastructure are therefore encouraged. The extent to which mobile banking providers specifically target remittance markets remains however unexplored. For the mobile banking providers that do develop services for remittances senders it is not clear what these services exactly entail. How the mobile system that is emerging around the world currently fits the needs of migrants to send money to their family members and friends back home therefore remains a question unanswered. A clear overview on the link that is made between mobile banking and mobile remittances and the conditions under which this link is successful is therefore currently lacking.

Within the perspective of looking for new, innovative, and formal remittance systems to reach the rural poor, this paper has a specific focus on the innovative tool of mobile remittances in Africa. Remittances provide an important source of income for many Africans, specifically because of their stable nature (Gupta, Pattillo & Wagh, 2007). Mobile banking providers on the continent also increasingly target the remittances market, following for example the successful M-Pesa project in Kenya, which provides people the opportunity to make financial transfers between Kenya and the United Kingdom. Since the number of mobile users continues to grow at a

[3] For a detailed description of the effects of migration and remittances see: Siegel, Melissa (forthcoming) "Migration and Development: A Review of the Effects of Migration" in Schneider, Hildegard and Anja Wiesbrock *European Migration, Law and Citizenship*, Intersentia, Antwerp, forthcoming.

rapid pace in Africa, this paper looks into this technology in more detail to see where and how this can be harnessed to help increase money transfers. The scope and reach of mobile remittance transfers for Africa will be explained, as well as where they are being used, their link to migration patterns in Africa, and how the upcoming trend of mobile banking initiatives affects the possibilities for national and international mobile remittances. Based on these analyses this paper will provide policy advice on harnessing and increasing the development potential of mobile remittances in Africa.

2. The Development Potential of Mobile Remittances

The upcoming trend of mobile remittances is based on the mobile banking system, also referred to as cell-phone based transactions or m-banking (Porteous, 2006; World Bank, 2008). So how do mobile remittances work in practice? Users of mobile banking go to an agent that is commonly used for buying phone credit, and pay a certain amount in cash. That money is then credited to their so-called 'mobile-money' account through a text-message that is sent by the shop employee. After this, the user can transfer the money to another person by sending a text-message. The receiving person goes to a corner shop in his or her neighbourhood and collects the money in cash.

Hence, one of the most important advantages of sending remittances through mobile banking is that the money travels fast. It takes only a text message to send money around the globe, which is generally faster than sending by money by any banking system or other money-sending operator. Another advantage is that the service is highly accessible to all segments of society. Even in rural communities that have relatively low access to transportation and financial services, sending mobile remittances is an option. After all, instead of a fully developed financial infrastructure, all you need is a licensed shop and a mobile phone. Consequently, people do not have to travel far to use mobile banking and do not have to have access to other financial services already, such as bank accounts (Porteous, 2006). Mobile remittances thus have the potential to reach the so-called 'unbanked' and are therefore considered a promising tool for poverty alleviation in developing countries.

Another important advantage of sending remittances through mobile phones is that, as compared to other financial transfer systems, mobile remittances are generally less costly. The mobile remittance system uses the mobile communications infrastructure that is already present in developing countries, which lowers the delivery costs for the sender and makes mobile remittances more attractive (World Bank, 2008). In addition, because sending mobile remittances is relatively cheap it is more attractive for the users to send small amounts, which increases incentives to send remittances more often. When remittances are sent through banks or money-sending operators, small amounts are often charged more, relatively, for in general the price to send money consists of two costs: a fixed cost for a transfer and a fee that is dependent on exchange rates (World Bank, 2008).

By making remittances sending cheaper, faster and highly accessible expectations are that more people will use formal channels to make their money transfers.[4] Globally, a large share of remittances is transferred through various informal channels instead of through the banking system or established money transfer operators. However, it is believed that formal channels are more likely to promote economic development. First, recipients and senders of remittances are brought into regular contact with the formal financial sector (Spatafora, 2005). At the same time the availability of funds that can provide loans will increase economy-wide, promoting financial development. Second, greater use of formal transfer channels is likely to help reduce transfer fees due to increased competition among providers, hence allowing more money to reach recipients. Third, banks in developing countries are able to securitize future flows of remittances and their fee income from remittance transactions and the securitization of loans can allow banks to attain investment grade ratings, reduce borrowing costs, and expand lending (OECD, 2007). Finally, transfers through established money transfer operators are transparent and therefore not subject to wholesale charges of criminal involvement. Informal international transfer networks have at times been suspected of providing cover for money laundering or the financing of terrorism (Jost & Sandhu, 2000; Vlcek, 2011).

Even though mobile remittance sending holds the promise of being highly accessible, of providing fast and cheap money transfers and of promoting formal remittances channels, some limiting factors can be as well. First, the claim that mobile remittances are widely accessible is still subject to debate (World Bank, 2008). Money transfers are usually not allowed between different providers, who thereby limit the service to its own members only. In addition, in some areas the mobile banking service is offered by banks, which provide the service to their customers that already have registered bank accounts. In line with this claim, Porteous (2006) makes a distinction between 'additive' and 'transformational' approaches that mobile banking providers can apply to analyze the potential of the mobile banking system to increase access to financial services. The first approach focuses on people that already have a bank account, so that the mobile banking service is 'added' to other financial services the company provides. With the transformational approach, which is defined as the "provision of banking services using a mobile phone […] in such a way that currently unbanked people are targeted" (Porteous, 2007: 6), companies specifically target the unbanked by providing a service that matches the needs of that group. As there are few formal systems to send remittances to for example remote and rural areas, the transformational approach is likely to be the most beneficial for remittances sending.

Second, mobile money transfers are often only allowed within national borders, thereby limiting the scope for international remittances. This is mostly due to financial regulations of the countries involved. National financial policies and financial treaties between countries are therefore important to expand the potential of international mobile remittances. Some exceptions can be mentioned, as mobile banking providers increasingly acknowledge the international remittances terrain as

[4] Formal remittance transfers are those transfers sent through formally registered and regulated institutions like banks and registered money transfer operators (i.e. Western Union). Informal transfers are those that either travel through unregulated money transfer channels or underground banking or those that are hand carried by individuals or sent in packages.

an important market. An example of such a system is the M-PESA system between Kenya and the UK, which will be discussed in detail in the next section.

Third, the extent to which mobile remittances are able to contribute to development and poverty alleviation is highly dependent on another context, which Porteous (2006) calls the 'enabling environment'. This environment is defined as "the set of conditions which promote a sustainable trajectory of market development" (p. 4), which is in this case the set of conditions that make the access to the service widely available. For example, there has to be a competitive financial sector in which the service providers operate in order to keep prices low (Porteous, 2006; World Bank, 2008). If new market players are able to enter the market and create a competitive environment for mobile banking, this financial service has the potential to transform financial systems, keep prices low, and reach certain groups within society that were formerly excluded from financial services (Porteous, 2006). However, since the mobile banking market in Africa is relatively new, the extent to which the enabling environment is favourable for remittances sending is not clear. Other authors refer to other country characteristics that might impact the 'receptiveness' of the local context to mobile money opportunities such as the demand for the specific service, the availability of alternative systems of money transfer, rules and regulations at the country level, the retail landscape, and the mobile phone market (Heyer & Mas, 2011). Various authors state that favourable financial regulatory frameworks are required to realize the potential of mobile money transfers (Sivapragasam, Aguero & de Silva, 2011; Vclek, 2011).

3. Mobile banking and remittances in Africa

In this section, the prospects mobile banking offers for sending remittances are explored for the African context. To analyse the availability of mobile banking and the services that are provided in Africa, a distinction is made between the five largest regions in Africa: Northern, Western, Eastern, Middle, and Southern.[5] First, the migration and remittances patterns are explored for each region. The rapidly increasing popularity of mobile remittances is dependent on the migration patterns seen around the world, and the typical needs of migrants to send money to their family members back home. Next, the mobile banking trends are described, including the services that the different types of providers offer. After this, the extent to which the providers target remittance senders and how the services that are provided meet the needs of remittances senders in each region are analyzed. Finally, attention is paid to the link between mobile banking services and the opportunities for mobile remittances in each region. Mobile banking and mobile remittances have played a particularly transformative role in each of these regions extending access to mobile transfers to the unbanked.

3.1 Northern Africa[6]

3.1.1 Migration and remittances in Northern Africa

[5] classification is based on the United Nations (UN) geographic classification scheme

[6] Consisting of Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Sudan, Tunisia, and Western Sahara.

Northern Africa, consisting of Algeria, Egypt, Libyan Arab Jamahiriya, Morocco, Sudan, Tunisia, and Western Sahara, knows mainly high levels of out-migration over the course of history (see Table 1). Especially Morocco, Egypt and Algeria are large emigration countries. The main destinations for migrants from North Africa are Europe (particularly Belgium and France), the United States, Israel and Saudi Arabia. North African countries are also increasingly being seen as both destination and transit countries for migrants coming from other parts of Africa. Consequently, large amounts of remittances are sent to these countries on a regular basis.

Table 1: Migration and remittances in Northern Africa: 2010

	Stock of emigrants	% of population	Stock of immigrants	% of population	Outflow remittances (US$ million)	Inflow remittances (US$ million)
Algeria	1,211,100	3.4	242,300	0.7	-	2,031
Egypt	3,739,100	4.4	244,700	0.3	255	7,681
Libya	110,100	1.7	682,500	10.4	1,000	16
Morocco	3,016,600	9.3	49,100	0.2	61	6,447
Sudan	967,500	2.2	753,400	1.7	2	3,178
Tunisia	651,600	6.3	33,600	0.3	13	1,960
Western Sahara	-	-	-	-	-	-

Source: World Bank (2011)

Table 2 shows the percentage of remittances transferred through different providers in the North African countries. Banks have a prominent presence in the money transfers to Egypt, Libya and to some extent Tunisia. For the rest of the countries, the role of banks is extremely limited and other forms of transfer (particularly informal transfers) play an important role.

Table 2: Inbound payments of remittances by institution in Northern Africa (%) 2009

	Bank	Forex	MFI	Other	Post	Retail
Algeria	23	0	0	1	40	36
Egypt	76	0	0	24	0	0
Libya	81	0	0	19	0	0
Morocco	35	0	0	55	4	6
Sudan	18	46	7	29	0	0
Tunisia	56	0	0	10	25	0
Western Sahara	-	-	-	-	-	-

Source:IFAD (2009)

3.1.2 Mobile banking in Northern Africa

Most of the countries in Northern Africa have some kind of mobile banking services available, except for Western Sahara and Libya (see Table 3 for an overview), and many of the service providers are currently trying to expand their services to other countries as well. Mobile phone user levels have increased rapidly in some Northern African countries such as Morocco and Tunisia over the past few years. In Tunisia, for example, a rise can be detected from 10 percent of mobile phone penetration in

2002 to 60 percent of mobile phone penetration in 2005 (Bhavnani, Chiu, Janakiram , Silarszky, 2008).

In Algeria, Western Union and Orascom Telecom Holding, a telecom company operating in the Middle East, Africa, and Asia, joined forces and launched a mobile money transfer service in 2008. The money transfer service specifically targets mobile remittances sending. Orascom Telecom is currently expanding its services to other Northern African countries such as Tunisia and Egypt.

In Sudan, the mobile payment service Saraf-Mobile was put into place in 2009, as a joint initiative by Mi-Pay, a mobile payments services provider in the UK, and Isys, a financial services provider for MNO's and financial institutions based in Kuwait. They offer mobile phone payments and transfers for both individuals and companies internally but not internationally. If successful, Saraf-Mobile is planned to be extended to another 22 countries in the Middle-East and North Africa.

In Morocco, Maroc telecom has launched Mobicash in 2010 offering money transfer and mobile phone payments. Mobicash has an agreement with Attijariwafa Bank and the Central Banque Populaire in Morocco. The services Mobicash offers are money deposits, money withdrawal, bill payments, and money transfers for registered Mobicash users. Mobicash targets both individual users and small and large businesses. The mobile money transfers can be made internationally, and no bank account is needed to use the service.

Table 3: Mobile money transfer services in Northern Africa

Country	Service Provider	Type of service provider	Types of services provided	National versus international	Available to whom?
Algeria	Western Union, Orascom Telecom	Money transfer operator and telecom company	Payments and money transfers	International	?
Egypt	x	x	x	x	x
Libya	x	x	x	x	X
Morocco	MobiCash	Telecom company	Money deposit, money withdrawal, payments, and money transfers	International	Mobicash registered users
Sudan	Mi-Pay/ Saraf-Mobile	Telecom company and financial services provider	Payments and money transfers	?	?
Tunisia	Western Union, Orascom Telecom	Money transfer operator and telecom company	Payments and money transfers	International	
	Mdinar	Bank and telecom company	Money transfers and mobile payments	National	Mdinar registered users
Western Sahara	x	x	x	x	x

Source: websites of the service providers

3.1.3 Opportunities for mobile remittances in Northern Africa

As the descriptions above show, most of the mobile banking providers in Northern Africa respond to the needs of the international migrants originating from the region and focus specifically on remittances, and international remittances (to Europe) in particular. Many mobile money transfer providers are currently expanding their services to other countries. Based on the low penetration of formal providers in some of the countries (particularly Sudan) there is great opportunity for mobile money transfers to reach more of the population and to have a very transformative affect.

3.2 Western Africa[7]

3.2.1 Migration and remittances in Western Africa

As Table 4 shows, migration and remittances play an important role in Western Africa. Almost all countries show a substantial level of both in- and out-migration. Burkina Faso and Mali have the highest stock of emigrants, whereas Cote d'Ivoire and Ghana have the highest stocks of immigrants. In absolute terms, Senegal, Togo, and Mali have the largest inflows of remittances, whereas Cote d'Ivoire has the largest outflow of remittances.

Migrants from West Africa mainly go to a mix of European and African countries. This means that there is also plenty of south-south migration and south-south remittance sending, which makes a difference for access to different types of available remittance services and the direct of flows between countries.

Table 4: Migration and remittances in Western Africa: 2010

	Stock of emigrants	% of population	Stock of immigrants	% of population	Outflow remittances (US$ million)	Inflow remittances (US$ million)
Burkina Faso	1,576,400	9.7	1,043,000	6.4	-	43
Cape Verde	192,500	37.5	12,100	2.4	10	144
Cote d'Ivoire	1,170,900	5.4	2,406,700	11.2	120	177
Gambia	64,900	3.7	290,100	16.6	3	61
Ghana	824,900	3.4	1,851,800	7.6	-	119
Guinea	532,700	5.2	394,600	3.8	56	66
Guinea-Bissau	111,300	6.8	19,200	1.2	17	27
Liberia	431,900	10.5	96,300	2.3	0	57
Mali	1,012,700	7.6	162,700	1.2	105	405
Mauritania	118,00	3.5	99,200	2.9	-	2
Niger	386,900	4.4	202,200	1.3	22	70
Nigeria	1,000,000	0.6	1,127,700	0.7	66	9,975
Senegal	636,200	4.9	210,100	2.8	143	1,164
Sierra Leone	267,000	4.6	106,800	1.8	3	48
Togo	368,700	5.4	185,400	2.7	58	302

[7] The countries located in Western Africa are Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

Source: World Bank (2011)

Table 5 shows the channel used for inbound payments of remittances. While Banks are used to a greater extent in some countries, other types of services provision play an important role (i.e. Post in Senegal).

Table 5: Inbound payments of remittances by institution in Western Africa (%) 2009

	Bank	Forex	MFI	Other	Post	Retail
Burkina Faso	31	2	2	14	38	13
Cape Verde	22	4	0	54	20	0
Cote d'Ivoire	18	26	4	10	39	3
Gambia	34	42	0	15	1	9
Ghana	90	0	3	0	6	0
Guinea	47	6	0	28	0	19
Guinea-Bissau	26	26	0	48	0	0
Liberia	69	0	0	28	0	3
Mali	59	0	17	15	9	0
Mauritania	-	-	-	-	-	-
Niger	33	0	6	18	28	14
Nigeria	81	0	0	2	2	15
Senegal	13	0	9	26	53	0
Sierra Leone	62	20	0	16	0	3
Togo	23	0	14	25	38	0

Source: IFAD (2009)

3.2.2 Mobile banking in Western Africa

Table 6 offers an overview of mobile banking services in Western Africa. As the table shows, Cote d'Ivoire, Ghana, and Senegal have mobile banking services available.

MTN Ghana pioneered mobile money transfer in Ghana in 2009, and other players are getting into the market. For example, Afric Xpress has introduced txtnpay, a system for sending money, paying bills, buying mobile prepaid airtime, checking bank balances and paying electronically for goods and services. Another payment services is offered by eTranzact, while most banks are now enabling client access to their bank accounts through mobile phones.

In Senegal and Cote d'Ivoire Orange Money is operating in the mobile money industry. The services offered are: mobile money transfers, mobile payments, cash deposits, and cash withdrawal. Money transfers can be made to people who are not registered users. Focus is on both business and individual users.

In Nigeria some mobile banking providers are currently exploring the possibilities to launch a trial of mobile banking services. An example is GoMobile mobile banking, and Western Union Money transfers via mobile phones.

Table 6: Mobile money transfer services in Western Africa

Country	Service Provider	Type of service provider	Types of services provided	National versus international	Available to whom?
Burkina Faso	x	x	x	x	x
Cape Verde	x	x	x	x	x
Cote d'Ivoire	Orange	Telecom company	Mobile payments, money transfers, cash deposits, and cash withdrawal	National	Orange subscribers

	MTN Mobile Money	Telecom company	Cash deposit, cash withdrawal, money transfer, mobile payments	National	MTN subscribers
Gambia	x	x	x	x	x
Ghana	MTN	Telecom company	Mobile money	National	MTN subscribers
	Afri Xpress txtNpay	Mobile payment provider	Cash deposit, cash withdrawal, money transfers, mobile payments	National and International (as of now only receiving)	txtNpay subscribers
	Airtel Money	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Airtel customers
	United Bank for Africa (UBA)	Bank	Balance checking, money transfers, and prepaid airtime purchases	National	UBA customers
Guinea	x	x	x	X	x
Guinea-Bissau	x	x	x	x	x
Liberia	x	x	x	x	x
Mali	Orange	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Orange subscribers
Mauritania	x	x	x	x	x
Niger	Orange	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Orange subscribers
Nigeria	Monitise	Mobile money provider	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Monitise subscribers
	United Bank for Africa (UBA)	Bank	Balance checking, money transfers	National	UBA customers
Senegal	Orange	Telecom company	Mobile payments, money transfers, cash deposits, and cash withdrawal	National	Orange subscribers
	Yoban'tel by Obopay	Bank	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Yoban'tel subscribers
Sierra Leone	Splash Mobile Money	Mobile money provider	Cash deposit, cash withdrawal, money transfers	National	Splash Mobile Money subscribers
	Airtel	Telecom	Cash deposit,	National	Airtel customers

	Money	company	cash withdrawal, money transfers, mobile payments		
Togo	x	x	x	x	x

Source: websites of the service providers

3.2.3 Opportunities for mobile remittances in Western Africa

West Africa has started to dabble in mobile money transfers. Most of the projects at the moment are only able to transfer money at the national level and are only available to subscribers of the specific service provider and are still in the beginning stages. There is still much room for scaling up here.

3.3 Middle Africa[8]

3.3.1 Migration and remittances in Middle Africa

In Middle Africa there is also a significant amount of migration to Europe as a main destination but also movements of migrants between the African countries. Table 7 below shows the volume of migration and remittances, where available, in this part of Africa. The DRC has that largest stock of migrants abroad but Equatorial Guinea has the largest share of its population abroad.

The opportunities for mobile money in Middle Africa are vast with more mobile penetration. Only in Kinshasa there are an estimated 6,147,664 mobile e-connections and that is only with 10% mobile penetration, so there is much room for growth (Mendes, Alampay, Soriano and Soriano, 2007).

Table 7: Migration and remittances in Middle Africa: 2010

	Stock of emigrants	% of population	Stock of immigrants	% of population	Outflow remittances (US$ million)	Inflow remittances (US$ million)
Cameroon	279,200	1.4	196,600	1.0	94	148
Central African Republic	129,300	2.9	80,500	1.8	-	-
Chad	243,300	2.1	388,300	3.4	-	-
Congo	208,600	5.6	143,200	3.8	102	13
Democratic Republic of the Congo	913,900	1.3	444,700	0.7	-	-
Equatorial Guinea	92,893	18.4	5,800	1.2	-	-
Gabon	25,200	1.7	284,100	18.9	186	10
Sao Tome and Principe	36,200	21.9	5,300	3.2	1	2

Source: World Bank (2011)

There is a very mixed picture across Middle Africa with regard to remittance service

[8] Middle Africa consists of Cameroon, the Central African Republic, Chad, Congo, the Democratic Republic of the Congo, Equatorial Guinea, Gabon, and Sao Tome and Principe.

provision (Table 8). All different types of institutions are used for money transfers, which makes for very diverse regional activity.

Table 8: Inbound payments of remittances by institution in Middle Africa (%) 2009

	Bank	Forex	MFI	Other	Post	Retail
Cameroon	30	5	15	48	3	0
Central African Republic	70	0	20	0	0	10
Chad	53	0	0	47	0	0
Congo	28	0	17	26	28	0
Democratic Republic of the Congo	25	0	0	67	0	9
Equatorial Guinea	75	0	0	13	13	0
Gabon	21	10	0	10	59	0
Sao Tome and Principe	100	0	0	0	0	0

Source:IFAD (2009)

3.3.2 Mobile banking in Middle Africa

In Middle Africa, the mobile banking industry is relatively underdeveloped (Table 9). Congo has had a pilot of a mobile phone payment system, initiated by Celpay. Celpay is originally based in South Africa, and is therefore described in detail in section 3.5. The services Celpay offers in Congo are cash deposits, mobile payments, and money transfers focusing on both individuals and businesses. Money transfers can only be made nationally, and customers need to have a bank account. MTN has launched in Cameroon and is available nationally and only to MTN subscribers.

Table 9: Mobile money transfer services in Middle Africa

Country	Service Provider	Type of service provider	Types of services provided	National versus international	Available to whom?
Cameroon	MTN Mobile Money	Telecom company	Cash deposit, cash withdrawal, money transfer, mobile payments	National	MTN subscribers
Central African Republic	x	x	x	x	x
Chad	x	x	x	x	x
Congo	CelPay		Cash deposits, mobile payments, money transfers	National	Bank account holders
Equatorial Guinea	x	x	x	x	x
Gabon	x	x	x	x	x
Sao Tome and Principe	x	x	x	x	x

Source: websites of the service providers

3.3.3 Opportunities for mobile remittances in Middle Africa

The opportunities for mobile remittances are currently relatively low in Middle Africa. Congo and Cameroon are the only countries in which a telecom company is operating and offering mobile money transfers. Their services are rather limited, and since mobile phone penetration in Middle Africa has not reached the levels of other African regions yet, there is still much room to develop a good opportunity structure for mobile remittances in Middle Africa. Much financial infrastructure is still missing in this area of Africa due to low development rates and previous conflict, making it even more important to provide services to the rural poor.

3.4 Eastern Africa[9]

3.4.1 Migration and remittances in Eastern Africa

Eastern Africa has had high rate of migration in the last decade due to conflict, famine and border movements. Eritrea, for example, has almost 20 percent of its population outside of the country. Remittance data for this part of Africa is scarce but some countries, such as Kenya and Uganda still record extremely high volumes of remittances (Table 10).

Table 10: Migration and remittances in Eastern Africa: 2010

	Stock of emigrants	% of population	Stock of immigrants	% of population	Outflow remittances (US$ million)	Inflow remittances (US$ million)
Burundi	356,00	8.5	60,800	0.7	0	3

9 For Eastern Africa we look at Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, Madagascar, Mauritius, Rwanda, Seychelles, Somalia, Uganda, United Republic of Tanzania, and Zimbabwe.

Comoros	38,600	5.6	13,500	2.0	-	11
Djibouti	13,500	1.5	114,100	13.0	5	28
Eritrea	942,100	18.0	16,500	0.3	-	-
Ethiopia	620,100	0.7	548,000	0.6	21	387
Kenya	457,100	1.1	818,700	2.0	61	1758
Madagascar	79,500	0.4	37,800	0.2	21	10
Mauritius	140,700	10.9	42,900	3.3	12	220
Rwanda	263,40	2.6	465,500	4.5	71	91
Seychelles	12,300	14.6	10,800	12.8	24	13
Somalia	812,700	8.7	22,800	0.2	-	-
Uganda	757,500	2.0	646,500	1.9	463	773
Tanzania	316,900	0.7	659,200	1.5	54	17
Zimbabwe	1,253,100	5.9	372,300	2.9	-	-

Source: World Bank (2011)

There is, again, a mixed picture for Eastern Africa with regard to remittance service provision. Comoros, Djibouti and Somalia have nonexistent or very small penetration of banks. On the other hand, Ethiopia, Burundi, Kenya, Rwanda, Uganda and Tanzania all have relatively high penetration of bank remittance service provision.

Table 11: Inbound payments of remittances by institution in Eastern Africa (%) 2009

	Bank	Forex	MFI	Other	Post	Retail
Burundi	68	0	21	11	0	0
Comoros	12	0	9	0	76	3
Djibouti	23	0	0	23	46	8
Eritrea	42	58	0	0	0	0
Ethiopia	89	0	0	10	1	0
Kenya	67	0	2	5	25	0
Madagascar	52	6	0	24	18	0
Mauritius	-	-	-	-	-	-
Rwanda	63	0	24	9	4	0
Seychelles	-	-	-	-	-	-
Somalia	0	0	0	0	0	100
Uganda	63	0	17	19	1	0
Tanzania	65	0	0	10	25	0
Zimbabwe	53	0	0	19	28	0

Source:IFAD (2009)

3.4.2 Mobile banking in Eastern Africa

In Eastern Africa, the mobile banking business is booming. Countries have seen sharp increases in mobile banking services in recent years, including services to make person-to-person transfers. The leading company in the Eastern African region is M-Pesa in Kenya, which is one of the only companies in the world offering international money transfer services. However, other companies such as MTN Mobile Money, originally located in South Africa, are extending their markets to the Eastern African region. See Table 12 for an overview.

Kenya is one of the few countries in the world in which a successfully international money transfer service was incorporated. M-Pesa, a joint initiative by

Safaricom, the leading cell phone provider in Kenya, and Vodafone was launched in 2007. The main focus of M-Pesa was to provide low-cost person-to-person money transfers. The services included were cash deposits, cash withdrawals, and person-to-person money transfers. In 2009, M-Pesa extended its services to the UK, making it possible for customers to make international money transfers between the UK and Kenya. Currently, Safaricom has over 13 million customers using M-Pesa (Mohapatra, 2011). M-Pesa is considered an important example of an international mobile money transfer service, and its success clearly shows the need for these services. M-Pesa is mainly popular because it offers fast, cheap, and highly accessible services. No bank account is needed to use M-Pesa, but Safaricom is currently exploring the possibilities to ally with banks such as the Equity Bank. Currently there are at least five key competitors to M-PESA: yuCash by Obopay, Airtel Money (replacing Zain brand's Zap after Bharti Airtel's acquisition), Orange Money and Hello Money (Barclays) (Mondato, 2010).

MTN Mobile Money is a joint initiative of the cell phone company MTN Group and Standard Bank in South Africa, which launched their project in 2005. MTN Mobile Money was launched in Uganda in 2009 and works with the Stanbic Bank. Currently, they are looking at providing international money transfer services. In Rwanda MTN Mobile Money was incorporated in close cooperation with the National Bank of Rwanda in February 2010, and the number of users is increasing rapidly.

MTN Mobile Money advertises with 'convenient, secure, and affordable way of sending money', and focuses specifically on money transfers within countries.10 The goal is to target areas which currently have a high proportion of unbanked people. The services offered are cash deposits, cash withdrawals, and money transfers. MTN cooperates with local banks, but to use the mobile money service, no bank account is required. MTN services are not just available to registered MTN customers; people who are not registered can also receive money through authorized MTN Mobile Money agents. This way people that do not have a MTN subscription, own a phone, or have a bank account can still receive money. The fee for non-registered people is somewhat higher.

Mobile phone banking was introduced in the northern Somaliland in 2009 (Somaliland Press, 2011). The three providers were reportedly forced to shut down by militant groups and it is unclear if they will be able to continue.

Table 12: Mobile money transfer services in Eastern Africa

Country	Service Provider	Type of service provider	Types of services provided	National versus international	Available to whom?
Burundi	Ecokash	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Ecokash customers
Comoros	x	x	x	x	x
Djibouti	x	x	x	x	x
Eritrea	x	x	x	x	x
Ethiopia	M-Birr	Mobile money	Cash deposit,	National	M-Birr customers

[10] See: http://www.mtn.com/ProductsServices/MTNMobileMoney/ for an overview of MTN services

		provider	cash withdrawal, money transfers, mobile payments	and international	
Kenya	M-Pesa	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National and international	M-Pesa customers
	Airtel Money	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Airtel customers
	Orange	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Orange customers
	yuCash	Telecom company	Cash deposit, cash withdrawal, money transfers	National	yuCash customers
	United Bank for Africa (UBA)	Bank	Balance checking, money transfers, prepaid airtime and electricity purchases	National	UBA customers
	Barclays Hello Money	Bank	Balance checking, money transfers, prepaid airtime and electricity purchases	National	Barclays customers
Madagascar	Orange	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Orange subscribers
Mauritius	x	x	x	x	x
Rwanda	MTN Mobile Money	Telecom company	Cash deposit, cash withdrawal, money transfers	National	Both MTN and non-MTN customers
	Banque Populaire du Rwanda (BPR)	Bank	balance checking, transfers, and prepaid airtime and electricity purchases	National	Only BPR customers
Seychelles	x	x	x	x	x
Somalia	X	x	x	x	x
Uganda	MTN Mobile Money	Telecom company	Cash deposit, cash withdrawal, money transfers	National and International	Both MTN and non-MTN customers
	Airtel Zap	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	Airtel customers
	UTL M-Sente	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments	National	UTL M-Sente subscribers
Tanzania	Vodaco	Telecom	Cash deposit,	National	M-Pesa customers

	m M-PESA	company	cash withdrawal, money transfers, mobile payments		
	Airtel Money	Telecom company	Cash deposit, cash withdrawal, money transfers, mobile payments, prepaid airtime purchases	National	Airtel customers
	Celpay	Bank	Cash deposit, cash withdrawal, mobile transfers, mobile payments	National	Celpay customers
	Tigo Pesa	Telecom company	Cash deposit, cash withdrawal, mobile transfers, mobile payments	National	Tigo customers
Zimbabwe	x	x	x	x	x

Source: GCAP (2006); World Bank (2009), Finscope (2009), websites of the service providers

3.4.3 Opportunities for mobile remittances in Eastern Africa

As the example of M-Pesa in Kenya shows, there is a clear market for mobile international money transfer services in Eastern Africa. As a result, many new initiatives have emerged and the services are likely to spread quickly in the region. Safaricom, for example, is currently looking for new markets and recently joined forces with mobile phone companies in other Eastern African countries such as Uganda and Tanzania to offer their services there as well. Another important example is MTN Mobile Money, which is currently developing services all around the continent, from Cyprus and Syria in Northern Africa to Swaziland, Botswana, and South Africa in Southern Africa.

In terms of potential for mobile remittances sending, the services that are currently emerging take into account the needs of people who want to send money to their friends or relatives. Only three operators allow international money transfers.

3.5 Southern Africa[11]

3.5.1 Migration and remittances in Southern Africa

Southern Africa knows substantial regional, 'South-South' migration patterns. The two most important migration routes in Southern Africa are Zambia-Angola-Namibia, and Malawi-Mozambique-South Africa (World Bank, 2009). Some of these countries such as South Africa with over 1.2 million (2.5 percent of the population),

[11] For Southern Africa we look at Botswana, Lesotho, Namibia, Swaziland, and South Africa. In this paper, Mozambique, Malawi, Angola and Zambia are also added to the Southern African region, based on the linkages between some of these countries in terms of migration and remittances routes.

Zambia, Angola, and Namibia with over 130,000 (6.6 percent of the population) immigrants, now host a significant migrant population (UNDP, 2009). However, most of the countries in Southern Africa are both migrant-sending and migrant-receiving countries. There is also a significant flow of internal migration in some Southern African countries, which is mainly a result of increasing urbanization patterns. Table 13 presents a migration and remittances overview for Southern Africa.

Migrants in Southern Africa mainly send remittances through banks, post offices, money transfer operators, or informally, by means of personal cash transfers, informal agents, or friends and acquaintances (Pendleton et al., 2006; World Bank, 2009). A large demand exists for informal ways of remittances-sending, and the fast transfer of relatively small amounts. This is also due to the fact that sending remittances through formal channels is expensive in Southern Africa (World Bank, 2009).

Table 13: Migration and remittances in Southern Africa: 2010

	Stock of emigrants	% of population	Stock of immigrants	% of population	Outflow remittances (US$ million)	Inflow remittances (US$ million)
Angola	533,300	2.8	65,400	0.3	716	82
Botswana	63,000	3.2	114,800	5.8	145	124
Lesotho	427,500	20.5	6,300	0.3	13	525
Malawi	212,600	1.4	275,900	1.8	-	1
Mozambique	1,178,500	5.0	450,00	1.9	63	117
Namibia	16,500	0.7	138,900	6.3	16	14
South Africa	887,100	1.7	1,862,900	3.7	1,158	1,008
Swaziland	160,300	13.3	40.400	3.4	8	118
Zambia	185,800	1.4	233,100	1.8	66	71

Source: World Bank (2011)

Southern Africa is characterized by the highest use of banks of any other African region. Botswana is the only country to have a more diversified portfolio on remittance services.

Table 14: Inbound payments of remittances by institution in Southern Africa (%) 2009

	Bank	Forex	MFI	Other	Post	Retail
Angola	100	0	0	0	0	0
Botswana	37	6	0	15	26	15
Lesotho	100	0	0	0	0	0
Malawi	70	10	0	15	0	6
Mozambique	100	0	0	0	0	0
Namibia	96	0	2	1	0	0
South Africa	100	0	0	0	0	0
Swaziland	100	0	0	0	0	0
Zambia	84	0	0	5	11	0

Source:IFAD (2009)

3.5.2 Mobile banking in Southern Africa

Mobile banking has become popular in some Southern African countries in recent years (see Table 15). Currently, South Africa and Zambia have mobile banking service providers that offer mobile remittance sending (World Bank, 2009). Many other banks show additive models of mobile banking, in which current customers can add mobile banking to the banking services they are already using. An example is the First National Bank (FNB) in Botswana, originally based in South Africa. Botswana has one of the highest user rates of cell phones in Sub-Saharan Africa (FinMark Trust, 2007; Porteous, 2007) and is considered a promising market for mobile banking. The FNB was the first to start mobile banking projects in the country and is currently expanding its services to other countries such as Zambia, Namibia, Botswana, Lesotho, and Swaziland. Other banks, including Barclays and Stanbic are currently following their lead in Botswana. The FNB offers the possibility to check balances, transfer money between accounts and make third-party payments between FNB customers. The service is limited to its own customers having a registered bank account.

In South Africa, WIZZIT and MTN Mobile Money are the two companies that provide mobile money transfers. Both companies are 'alliance banking models', which are joint initiatives of a bank and a third party, which can be either a cell phone company or another company (Porteous, 2007). WIZZIT is linked to the South African Bank of Athens, and focuses specifically on mobile banking services such as money transfers. WIZZIT focuses on low-income individuals who have low access to formal financial services in the country (GCAP, 2006). GCAP (2006) reported that being a registered member of WIZZIT is around one-third the price of owning a bank account. To use WIZZIT, no minimum balance on your account is required. WIZZIT does not charge its customer with a fixed amount every month, but has customers pay according to the services that they use. A small fee is required to become a registered user. WIZZIT offers mobile money transfers. People can also buy prepaid electricity and airtime for mobile phones (GCAP, 2006). In addition, WIZZIT offers internet banking and is connected to other banks in South Africa such as Absa and Postbank. In addition, a customer can send money to any mobile phone user; money transfers are not limited between WIZZIT subscribers. International money transfers are not possible.

MTN also focuses on providing widely available money transfer services in South Africa, as well as in other countries (as seen in earlier sections). The services offered are cash deposits, cash withdrawals, and buying goods at selected companies. MTN Mobile Money is currently connected to three banks in South Africa: Absa, Standard Bank, and Nedbank. Money transfers can only be made to other MTN subscribers. No international money-transfer services are offered by MTN (World Bank, 2009).

In Zambia, Celpay and Mobile Transactions Zambia Ltd (MTZL) offer mobile person-to-person transfers. Celpay is an alliance banking model, whereas MTZL is an independent banking model. As compared to the m-banking providers in South Africa, Celpay and MTZL both have a strong focus on the small business market in addition to the services they provide to consumers.

Celpay is an initiative by the South African First Rand Bank, was incorporated in 2002 and is considered one of the first African mobile banking providers. Celpay also operates in the Democratic Republic of the Congo and

Tanzania. Celpay in Zambia offers cash deposits, cash withdrawals, airtime purchases, and goods purchases at selected retailers. Celpay focuses on both consumers and businesses, and offers person-to-person transfers, and consumer-to-business (C2B) and business-to-business (B2B) payment systems. Money transfers can only be made nationally, and customers need to have a bank account.

MTZL is a joint initiative by the Dunavant Cotton Company in Zambia and CAD International Limited, an investment holding company in South Africa which specifically focuses on payment and transaction services. MTZL focuses mainly on payment and financial transaction services for individuals and small businesses. They offer payment systems, transaction services, and town transfers. MTZL has cheap services for payment systems for small business owners and urban-to-rural remittances sending, thereby targeting the unbanked. No international money transfer services are available. For MTZL no bank account is needed; all a customer needs is a phone and a sim-card.

Table 15: Mobile money transfer services in Southern Africa

Country	Service Provider	Type of service provider	Types of services provided	National versus international	Available to whom?
Angola	x	x	x	x	x
Botswana	MTN Mobile Money	Telecom company	Cash deposit, cash withdrawal, money transfers	National	Both MTN and non-MTN customers
	First National Bank (FNB)	Bank	Balance checking, money transfers, prepaid airtime purchases	National	FNB customers
	Barclays Hello Money	Bank	Balance checking, money transfers, prepaid airtime and electricity purchases	National	Barclays customers
Lesotho	x	x	x	x	x
Malawi	x	x	x	x	x
Mozambique	x	x	x	x	x
Namibia	MobiPay	Business	Cash deposit, cash withdrawal, money transfers, mobile payments,	National	MobiPay customers
	First National Bank (FNB)	Bank	Balance checking, cash withdrawals, money transfers, prepaid airtime purchases	National	FNB customers
South Africa	MTN Mobile Money	Telecom company	Cash deposit, cash withdrawal, money transfers	National	Both MTN and non-MTN customers
	WIZZIT	Bank	money transfer, mobile payments, Debit card	National	WIZZIT customers
	First National Bank (FNB)	Bank	Balance checking, cash withdrawals, money transfers, prepaid airtime,	National	FNB customers

			and electricity purchases		
	Absa, Western Union	Bank, Money transfer operator	Balance checking, money transfers, prepaid airtime, goods and electricity purchases	National and International	Absa customers
	Nedbank, Vodacom MiMoney (Standard Bank)	Bank	Money transfers, goods purchases	National	Both Standard Bank and non-Standard Bank customers
Swaziland	MTN Mobile Money	Telecom company	Cash deposit, cash withdrawal, money transfers	National	Both MTN and non-MTN customers
Zambia	Celpay	Bank	Cash deposit, cash withdrawal, airtime purchases, goods purchases at selected retailers	National	Celpay users only
	MTZL	Business/bank	Cash deposit, financial transactions, money transfer	National	MTZL users only
	MTN Mobile Money	Telecom company	Cash deposit, cash withdrawal, money transfers	National	Both MTN and non-MTN customers
	First National Bank (FNB)	Bank	Balance checking, cash withdrawals, money transfers, prepaid airtime purchases	National	FNB customers
	United Bank for Africa (UBA)	Bank	Balance checking, money transfers	National	UBA customers

Source: GCAP (2006); World Bank (2009), websites of the service providers

3.5.3 Opportunities for mobile remittances in Southern Africa

Mobile banking is on the rise in Southern Africa. As the region has seen high and increasing level of access to cell phones, mobile banking offers good opportunities for reaching the poor and unbanked. However, mobile banking is still limitedly available in Southern Africa. Only some mobile phone providers make the service available for people that are not registered. It seems that so far, mobile banking providers do not specifically target migrant remittances.

As already stated, sending remittances in Southern Africa through the formal sector is relatively expensive (World Bank, 2009). Even though the financial markets in Southern Africa are slowly developing, in terms of mobile banking the financial markets in several countries still lack a competitive structure. Most markets are dominated by only a few financial services providers. In addition, the types of services that are available for customers are still limited (World Bank, 2009). Especially in most of the migrant-sending countries the financial infrastructure knows a "weak competitive environment (especially in the remittance market); lack of access to technology – supporting payments and settlement system; and burdensome regulatory and compliance requirements (for banks)" (World Bank, 2009: iv). Furthermore, the information and communications technology is poorly developed in certain Southern African countries such as Zambia, Angola and Malawi, and many countries employ restricted policies in terms of exchange control (World Bank, 2009).

Almost all m-baking providers in Southern Africa focus on reaching the poor, and are therefore considered promising initiatives to reach the unbanked (Porteous, 2007). However, after a comparison of prices across different mobile banking providers in South Africa, Porteous concludes that "it is clear that current mobile offerings do not significantly alter the affordability of basic bank accounts" (p. 22), and that people using the service are not the poorest within society. In line with this argument, a study by GCAP (2006) showed that WIZZIT users do not come from the lowest income segments within South African society: "they tend to have more income and assets and be more financially and technologically sophisticated than other low-income South Africans" (p. 1).

As the migrants travelling across borders and internally in Southern Africa are mixed in terms of skills and income, migrants are not necessarily excluded from this group. Not all migrants lack access to financial services in their host countries (World Bank, 2009). However, as mobile money transfers cannot be made internationally, this severely hampers the potential for mobile remittances. The fact that money transfers are possible within national borders meets the needs for internal migrants to send money to their family members in, for example, rural areas. However, as described, substantial cross-border migration flows exist in the region, which clearly created a demand for cross-national remittances transfers as well.

4. Conclusion

This paper gave an overview of the opportunities that emerging mobile banking services in Africa provide for remittances-sending in and from the continent. The mobile banking industry is growing fast in Africa and is considered an important tool in providing financial access to the poor and unbanked. As stated, the ownership and usage of mobile phones has increased rapidly in Africa (World Bank, 2008; 2010) and, as a consequence, mobile banking services have become more popular.

The remittances sending market in Africa could benefit well from the upcoming trend of mobile banking. New technologies in remittances sending are encouraged, and mobile remittances in particular are considered a fast, cheap and highly accessible alternative for often expensive bank and MTO transfers. They could play a particularly important role for money transfers between African countries since these are the corridors with the least competition and the highest prices (IFAD, 2009).

However, mobile remittance sending has not developed to its full potential in Africa, due to several factors. First, despite the potential of both the internal and international mobile remittances market, most of the emerging mobile banking service providers in Africa do not specifically target remittances-sending. Instead the focus is mainly placed on banking the unbanked and reaching the poor. The facilitation of remittances is in this case considered a side-effect of these strategies, but not a goal in itself. In addition, several mobile banking providers target the market for small businesses in Africa, especially in Southern African countries such as Botswana, Zambia, and South Africa, providing payment systems and cash deposits.

As a consequence, and as a result of the fact that the mobile banking market is relatively new in Africa, the services in terms of financial transfers are often still very limited. Many providers limit their money transfer services to their own customers only. In addition, for some mobile banking providers customers need a bank account. This type of service provision is much more additive than transformative.

Third, whereas money transfers within national borders are often possible, international financial transfers are very limited across the continent. The financial regulations of many countries often inhibit international mobile money transfers, thereby severely limiting the potential of mobile remittances sending. By allowing the regulatory framework the countries to be more flexible and to take into account international mobile payments, the money transfer market could and would become more competitive and efficient.

The Eastern African region provides, however, an important example of how mobile banking can be used to facilitate mobile international remittances sending. The M-Pesa initiative in Kenya that opened a remittances pathway between Kenya and the UK is very successful and many companies are currently exploring this potential for international remittances sending, given the proper regulatory framework.

Fourth, the financial infrastructure plays a large contextual role. Across the continent, the often low-developed financial infrastructure does not support new technologies such as mobile banking, thereby limiting the ability to make mobile money transfers as well. As a consequence, the availability of mobile banking services differs substantially in Africa, and mobile remittances services as well. Especially in Southern Africa a sharp distinction can be detected between countries that have more developed financial infrastructures such as South Africa and Botswana, where the mobile banking business is growing rapidly, and countries with less developed financial infrastructures such as Zambia and Mozambique, where the services are still rather limited.

These differences in opportunities for mobile remittance sending across African regions shows that migration trends and the need for certain remittance services such as mobile remittances are clearly linked. For example, Southern Africa is mainly characterized by cross-border and internal migration flows, which creates a demand for informal and short-distance remittances sending. At the same time Southern Africa is also characterized by greater offering of mobile remittance services.

Although the current state of affairs has shown a mix between additive and transformational models of mobile remittance service provision, is it clear that while additive forms are helpful, the larger benefit can be seen with transformative models where remittances are able to bring the previously unreached into the formal financial sector.

As the mobile banking business is booming in Africa, and many companies are looking at opportunities to follow the lead of successful mobile remittances projects such as M-Pesa, it will only be a matter of time before the services offering mobile remittances are extended, given a favourable regulatory environment. Countries with higher levels of financial maturity will take the lead in this process, though. In addition, local governments have to be involved in this process to reduce the financial regulations on cross-border transactions.

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