

Mobile Money in Sub-Saharan Africa and Its Implications

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Introduction

On the African continent, the usage of mobile money, an innovative, new form of financial service, is expanding rapidly. According to the World Bank's,¹ Global Findex Database 2014, 13 countries with the highest user bases in proportion to the population (>10%) were all located in sub-Saharan Africa. Mobile money, a typical model of FinTech industry, is regarded as a practical alternative to the classical banking system. Due to the minimal requirements for its

financial service infrastructure, mobile money services are expanding rapidly across developing countries.

The wide spread usage of mobile money services in Africa is viewed as a meaningful progress in financial innovation in that the service was formed on the back of local demand. The companies distributing the service in this case took a bottom-up approach in developing the platform. The new service, now expanding from developing countries to well-developed countries, shows how innovative solutions to a local problem could engender a completely new type of service that could be applied globally. Therefore, we need to assess the current usage pattern of the service and try to understand its impact on the consumer banking service in Africa and beyond.

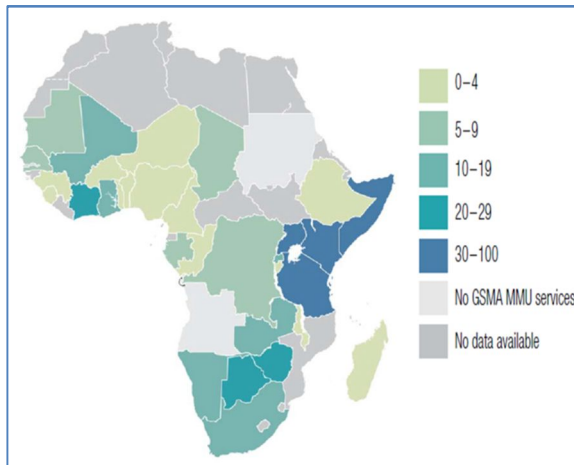
¹ Demircug-Kunt et al.(2015), "The Global Findex Database 2014: Measuring Financial Inclusion around the World," World Bank

Backgrounds

The first mobile money service was launched in South Africa in the year 2000. In 2007, Safaricom, a Kenyan mobile communications operator, launched a more mature service called M-Pesa. It was the first successful mobile money service launch that led to similar services in other East African countries. Behind the success of the M-Pesa service was a British overseas aid agency (DFID: Department for International Development UK) and Vodafone, a mobile carrier company. Ignited by the great success of M-Pesa, mobile money is one of the most attractive issues in international development at the moment. Although DFID and Vodafone suggested M-Pesa, the service is primarily driven by local demand in Africa unlike other top-down approaches, which is the norm in technological spillovers.

Figure 1. Mobile money account penetration in Sub-Saharan Africa

Adults with an account (%), 2014



Source: Demirguc-Kunt et al. (2015), p. 12.

By 2014, the number of local outlets that serviced M-Pesa reached 65,000, and the service, which was initially limited to money transfer, expanded to deposits and loans as well. The success of mobile money services in Kenya spread to surrounding countries such as Tanzania, So-

malia and Sudan. In the West African region, however, mobile money has been slow to expand. In relatively wealthy countries in North Africa the penetration rate of mobile money is even lower (Figure 1).

In many of the poor countries in Africa, it has been difficult to establish banks with physical branches. According to statistics published by the World Bank, only 34% of the sub-Saharan population has access to a financial account. In addition, only 24% has access to traditional financial institutions, excluding mobile finance. For example, there are five ATMs available for every 1 million people in Africa, compared to the world average of 34.

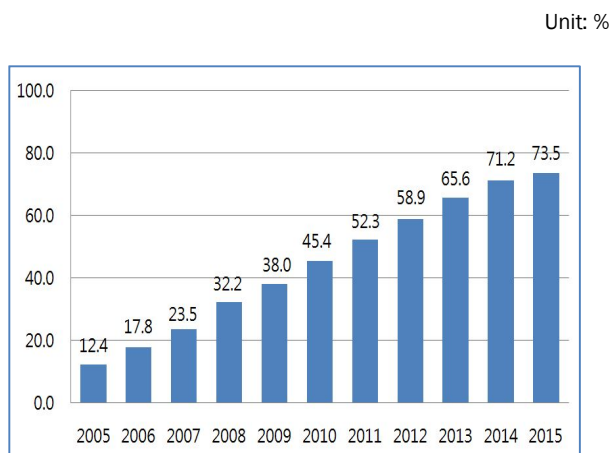
Table 1. IDI (ICT Development Index) – Africa

Regional rank	Economy	IDI	Global rank
1	Mauritius	5.41	73
2	Seychelles	4.96	87
3	South Africa	4.90	88
4	Cape Verde	4.62	96
5	Ghana	3.90	109
Average (Africa)		2.53	

Source: ITU (2015), "Measuring the Information Society Report 2015," p. 65.

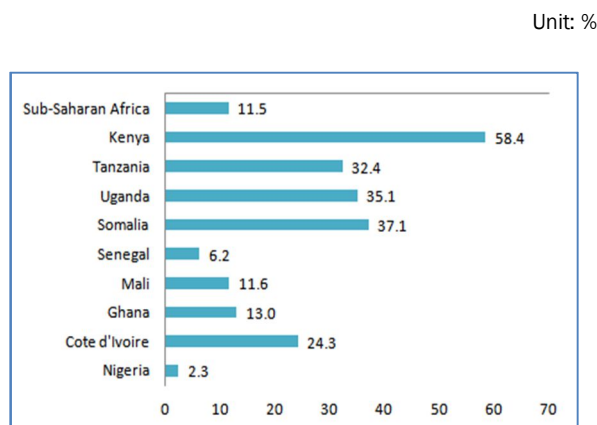
One of the fundamental limitations of mobile money in Africa is the level of the ICT (Information and Communication Technology) infrastructure. Mobile infrastructure in Africa is still poor, although it is regarded to be well-installed considering the income level. According to the IDI (ICT Development Index) by ITU (International Telecommunication Union), the level of ICT development is below the global average (Table 1). Africa, however, has great potential for ICT development as seen in that mobile infrastructure has risen 40% since 2000 (Figure 2).

Figure 2. Mobile-cellular subscriptions per 100 inhabitants, Sub-Saharan Africa



Source: ITU (2015), "Measuring the Information Society Report 2015," p. 65.

Figure 3. Mobile Account Penetration, Aged 15+, 2014



Source: World Bank(2015), Global Findex, <http://data.worldbank.org> (Accessed on November 4, 2015).

Examples

M-Pesa of Kenya is one of the most successful examples of mobile money in the world. Its achievement has provoked the spread of mobile money to other regions beyond sub-Saharan Africa. M is the first letter of mobile, and pesa

means money in Swahili. Since M-Pesa was launched by Safaricom, the percentage of accounts held by people aged more than 15 has jumped from 42.3% as of 2011 to 74.7% as of 2014, according to the World Bank's Global Findex Database 2014. Kenya's mobile account penetration rate, 58.4%, is the highest in the world (Figure 3).

Figure 4. Mobile Account Penetration, Poorest 40%, Aged 15+, 2014

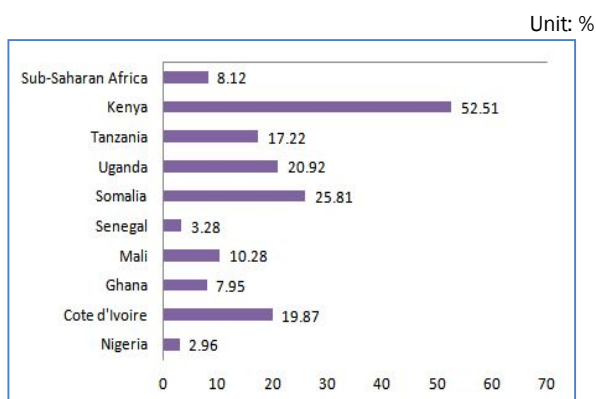


Figure 5. Account Penetration, Aged 15+, 2011 and 2014

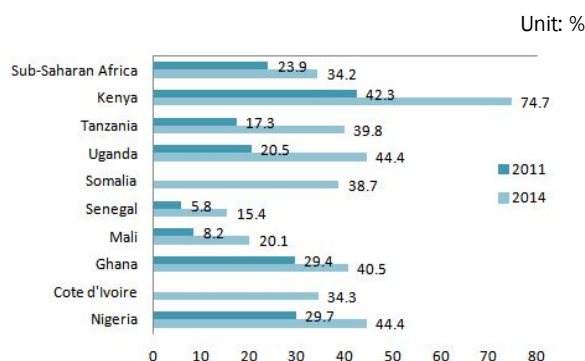
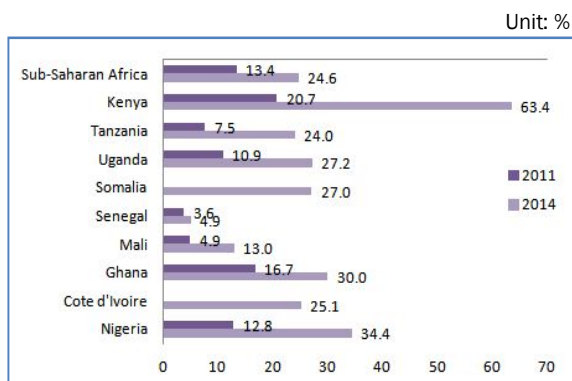


Figure 6. Account Penetration, Poorest 40%, Aged 15+, 2011 and 2014



Source: Compiled by the author based on World Bank(2015), Global Findex, <http://data.worldbank.org> (Accessed on November 4, 2015).

The reasons behind M-Pesa’s success are as follows: support from the Kenyan government toward mobile money services; high risks of losing money; high costs of other money-transfer methods; Safaricom’s dominant market position; pilot service before formal approval; simple campaign, ‘Send money home’; and an efficient system of cash management.²

Tanzania, a country neighboring Kenya, was already used to the concept of mobile money at the time of the launch of its first service. In April 2008, Vodafone, based on the success of M-Pesa in Kenya, started Tanzanian M-Pesa with Vodacom, which is partly owned by Vodafone. The service, however, was not that successful at first; during the first 14 months of each M-Pesa, Kenya had generated 2.7 million users and 3,000 agents; on the other hand, Tanzania had a mere 280 thousands users and 930 agents. Service providers, therefore, employed a different pricing model featuring a flat fee; offered registration incentives and the product of paying bills; simplified the marketing; and introduced an aggregator model.³ This modified strategy was

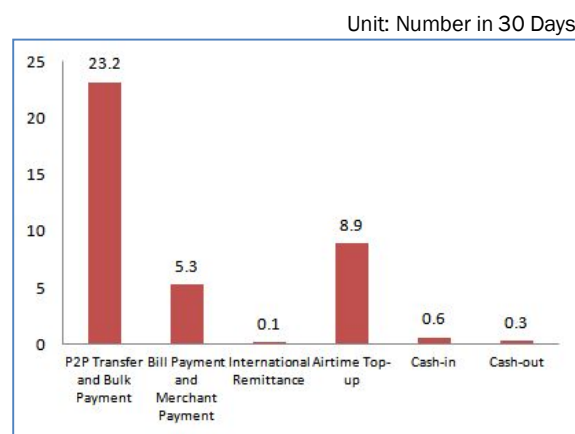
2 “Why Does Kenya Lead the World in Mobile Money?” *The Economist*, May 27, 2013.

3 Camner, Pulver, and Sjöblom(2009), “What Makes a Suc-

successful enough to make Tanzania a country with one of the highest rates of mobile money penetration, along with Kenya.

Another neighbor of Kenya, Somalia, has a 37% mobile money penetration, which is the second highest in the world, after Kenya. Telesom, a mobile network operator in Somaliland, launched Zaad in 2009. The service is influenced by M-Pesa of Kenya, but Telesom adjusted the model to suit Somalia, with consideration to the vulnerability of the region. As a result of this fitting modification, Zaad is highly active compared to the services in other countries. In 2012, Zaad users made 38 transaction a month on average, while the average number of global mobile transactions were 8 and 10 in 2012 and 2014, respectively (Figures 5 and 6). Though Zaad penetration has been successful, the service seems to be the cause behind inflation in Somaliland, since Zaad uses the US dollar instead of the Somaliland shilling.

Figure 7. Average Number of Transactions per Active Zaad Account, 2012

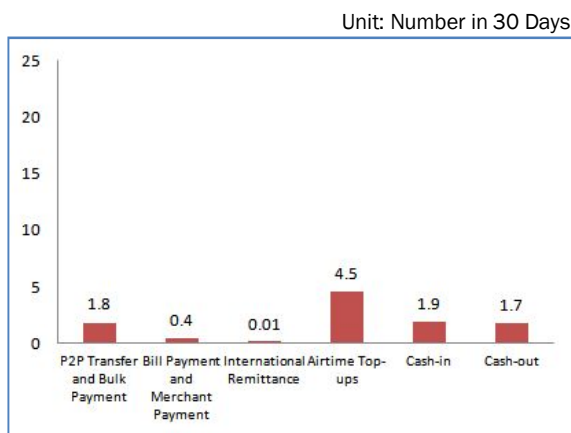


Note: P2P indicates person-to-person.

Source: Modified based on Pénicau(2013), “State of the Industry: Results from the 2012 Global Mobile Money Adoption Survey,” GSMA, p. 20, 22.

cessful Mobile Money Implementation?: Learnings from M-PESA in Kenya and Tanzania,” GSMA.

Figure 8. Global Average Number of Transactions per Active User for, 2014



Source: Modified based on GSMA(2015a), "2014 State of the Industry: Mobile Financial Services for the Unbanked," GSMA, p. 39.

The pattern of mobile money penetration is not uniform across sub-Saharan Africa. Unlike East Africa, the penetration rate remains low in West Africa. Among them, Cote d'Ivoire shows a distinctively high rate of 24.3% according to the World Bank. The country has returned to political stability and economic recovery since 2012, and mobile money providers have been employing effective strategies to increase usage.⁴ The country has also set an example of positive social impact; to allow school registration fees to be paid via mobile money, several mobile money providers have developed an application. The attempt improved cost efficiency, transparency, and the economic empowerment of all participants.⁵

Ghana is also regarded as a successful case in West Africa with a penetration rate of 13% as of 2014, according to the Global Findex 2014 Database. Prior to the introduction of mobile money, Ghana was home to a better environment in

⁴ Pénicaud(2014), "Mobile Money in Côte d'Ivoire: A Turnaround Story," GSMA.

⁵ GSMA(2015b), "The Mobile Economy: Sub-Saharan Africa 2015," GSMA, p. 36.

terms of financial inclusion compared to Kenya. Kenya's poor accessibility to financial services provoked the demand of person-to-person (P2P) transactions, but such demand was weak in Ghana. Despite results less successful relative to Kenya, Ghana is a promising country for mobile money with a 108.2% mobile penetration, and mobile money providers are trying to adjust the model to fit Ghana.

In contrast to all the successful examples aforementioned, Nigeria only has 2.4% penetration rate of mobile money, even though the nation possesses 85 million users as of June 2015, which is the largest number in West Africa.⁶ Nigeria is considered to be a failure in mobile money terms, despite expectations that it would be one of the most prosperous users of mobile money. The government's heavy regulations are one of the reasons for such low penetration. The role of mobile network operators is restricted by law and this has led to limitations in the expansion of mobile money.

Conclusion

As indicated above, patterns of mobile money penetration are not identical in the countries of sub-Saharan Africa. East Africa achieved considerable success in mobile money, but such success is backed by several reasons such as supportive authorities, and the initial conditions of financial access, which leads to high demand for the service. On the other hand, the biggest economy in sub-Saharan Africa, Nigeria, does not show such a high rate of mobile money penetration and this difference seems arise mainly from the degree of regulation. In spite of its great success, M-Pesa is unlikely to be adopted in South Korea as the financial environments in the

⁶ GSMA(2015a); World Bank(2015)

two countries are incomparable. From the cases discussed above, however, South Korea can learn that the role of the authorities is significant in FinTech.

Also, the mobile money market is not promising in itself as demonstrated in Nigeria. When it

comes to the market expansion of Korean ICT corporations in Africa, the above examples show that African nations do not possess uniform characteristics. It means that, at the planning stage, each country should be investigated separately. **KIEP**