Study of the Status and Issues of the Proliferation of Mobile Phones in the BOP Market - Focused on the African Market

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Abstract: This study would analyze the status and issue of the proliferation of mobile phones in the African market and provide useful implications to many companies and related groups. First, it is important to promote the removal of information gap, proliferating the open and safe Internet at affordable prices in relatively poor developing countries. Second, it is also important to induce the improvement of productivity and the price drop by promoting the competition between companies brought by digitalization. Third, it is necessary to proliferate the digital technology and develop human resources. This study provide managerial implications to companies that want enter Africa.

Key Words: Bop Market, Mobile Phones, African Market

1. INTRODUCTION

As of 2017, it is reported that world web users exceed 48% of the entire population. In modern society, an environment in which individuals can utilize the power of the computer more has been constructed through the Internet connection, 3G/4G smart phone, or cloud service. In the past, it took much time for advanced countries’ technology to spread to underdeveloped countries, but with the proliferation of the Internet, common access to information becomes a fundamental right like enjoying clean water, instead of being a benefit only enjoyed in advanced countries any more in the future. Since it is not difficult to build the infrastructure of wireless communications technology as compared to other public works (Power, roads and waterworks, etc.), it is expected that it will spread to any area in the world faster than other business. Thus, it has become an environment in which anyone in any country can access and exchange information on the other side of the earth.

This proliferation of the Internet accelerated globalization. Globalization refers to the development of social and economic relationships in the world beyond the borders. In other words, it means that the relationships in various aspects become integrated into a single system as the world becomes networked, and international/intercontinental interdependence increases. For the acceleration of these symptoms, of course, the proliferation of the Internet and digital appliances like smart phones played a significant role in the proliferation of digital appliances. These digital appliances
are characterized by the proliferation to the world, simultaneously, unlike the existing general electrical appliances proliferated from advanced countries through semi-developed countries to underdeveloped countries [1].

In this situation, the previous studies paid attention only to the spread of mobile phones in advanced countries, so it is hard to find studies of the spread and impact of mobile phones in underdeveloped countries. This study would analyze the status and issue of the proliferation of mobile phones in the African market, the representative area of the Bottom of the Pyramid (BOP) market based on this problem and provide meaningful implications for the related companies.

2. STATUS OF PROLIFERATION OF MOBILE PHONES IN THE BOP MARKET

Bottom Of the Pyramid (BOP) refers to the lowest income class, and in the world, the BOP class that live with less than 3,000 dollars yearly is 70% of the world population, and the consumer market has potential to the extent that its size is 5 trillion dollars, so BOP marketing attracts attention as a new means of pioneering a new market [5].

In the meantime, from the increase of the population to which the Internet is proliferated in the world from 1.02 billion in 2005 to 2.92 billion in 2014, it is judged that the population that uses the Internet increased by 1.9 billion in less than 10 years (See Table 1). To analyze the countries in the aspect of income level, incomes throughout the world increased by 2.5 times in 7 years from 2005 through 2012, and in the same period, incomes in advanced countries increased by 3.6 times; incomes in semi-developed country, by 87.6 times; and incomes in underdeveloped countries, by 55.3 times. It is judged that the population that utilizes the Internet in the BOP market sharply increases since 2010.

In the meantime, the number of mobile phone subscribers in the world is approximately 7 billion, and it is reported that the number of users is 3.4 billion as of 2013. There is a difference between the two because in developing countries, most users use a prepaid SIM card, and one person may often have several cards. Therefore, based on the population of 7 billion in the world, it is assumed that the penetration rate is about a half (48%). To classify countries by income level and analyze the number of mobile phone subscribers, it was noted that the growth rate of the group of low-income countries was very high, and for the BOP countries, it increased by about 190 times in 7 years from 2005 through 2012. However, numerous benefits related to digital technologies like the Internet are biased toward upper class and advanced countries that utilize new technologies effectively, and in reality, still about 4 billion persons have difficulty in accessing to the Internet.

3. CASE OF PROLIFERATION OF MOBILE PHONES IN THE AFRICA

The use of mobile phones spreads to the entire low-income countries including Africa. As mentioned above, the penetration rate of info-communications in the BOP market is higher than that of Social Overhead Capital (SOC) such as power, waterworks and roads. To examine the status of the penetration of mobile phones in Africa, centering around Sub-Saharan Africa, as of 2015, the total number of mobile phone subscribers is 680 million, and the penetration rate is 73.5%. Considering 87 million and the penetration rate of 12.7% 10 years ago, it is found that the growth rate has increased at a rapid speed [3].

It is also found that the average age of the users in the Sub-Saharan Africa is relatively lower, and the median age of the users in Nigeria is 18.2 years; that in
Ethiopia, 17.7; and that in Kenya, 19.9, which are the countries that hold the biggest population in Africa is 18.2 years old, and it is under 20 except for South Africa and Northern Africa [2]. Thus, it can be predicted that most of the adults have mobile phones, and it is expected that the proliferation will continuously spread in the future.

In addition to age distribution, there are two main reasons in the background that mobile phones widely proliferated in Africa as follows: First, as the European telecommunications standard changed from 2G (2nd generation system) to 3G, the mobile phones used previously in Europe became secondhand products and flowed into African countries, which could be purchased at low prices. For this symptom, the same phenomenon occurred with the change into 4G, too. Second, as compared to the network necessary for landline phones, the base stations of wireless mobile phones can be established more easily and at lower costs.

As above, using the spread of mobile phones, developing countries in Africa accelerate the development of the financial, medical and business areas. In other words, it brought about a sudden change in society and the economy to the extent that it would be called “mobile revolution.” To examine specifically, recently, the coefficient of utilization of mobile phone banking in Africa sharply increases. This is because the rate of subscription to mobile communications increases, and the number of young customers who would not use bank branches increases. In particular, the place where mobile phone banking is the most active in Africa is Sub-Saharan Africa, where 52% of global mobile suppliers are concentrated. In fact, in 9 African countries, including Cameroon, Congo, Gabon, Kenya, Madagascar, Tanzania, Uganda, Zambia and Zimbabwe, there are more mobile accounts than the existing bank accounts.

Actually, to examine the cases of utilizing mobile phones in Africa, most are small sum remittance service, mobile financial service, mobile fitness, agriculture and shopping mall sales. In Africa, the major areas where people use mobile banking and increase the efficiency are as follows:

3.1. Small sum remittance service

In Africa, mobile remittance service is the mainstream, which combines finance with technology. Previously, when people living in foreign countries would remit money to family, etc., they mostly used a remittance company or an unlawful remittance channel. Since a mobile phone has its own “payment” function, it could grow fast and rapidly. It allowed transfer of petty cash without any restriction in the place of remittance, no matter where they were in the world. A well-known case is “M-Pesa.” “M-Pesa” started service in 2007 by Safaricom, a Kenyan telecommunications service provider, which is a ‘mobile remittance service’ of making remittance to a phone number, instead of using a bank account. Using this service, people came to be able to make daily payments like utility bills or tuition fees in addition to remittance[4].

To examine the method, specifically, first, a user goes to a Safaricom window and pays remittance and fees. Then, the user sends a short message and password that notifies the amount of the remittance to the person who receives the money, using a mobile phone. The person who receives the message can get the cash, presenting the screen and password at any Safaricom window. This method of remittance not through the bank has spread rapidly between poor people that do not have a bank account.

3.2. Mobile financial services

In Africa, too, there is an increasing movement in which people would use mobile financial services instead of cash in
payment like domestic transaction as well as remittance from a foreign country. In emerging countries like African countries, there are a lot of people who do not have a bank account but have a mobile phone. Of 1 billion African populations, the number of bank account holders is estimated to be about 200 million. In contrast, the number of mobile phones registered is 685 million units (estimated as of 2015). The representative case of the provision of financial services for mobile phone owners who do not have a bank account (“Unbanked”) is “First National Bank” (FNB) of the Republic of South Africa. Groupe Speciale Mobile Association (GSMA) notes that, as of 2014, more than a half of the mobile financial services companies in the world (255 companies) have entered in the Sub-Saharan Africa and estimates that monthly mobile remittance (including domestic remittance) in this area is over 10 billion dollars [2]. In Africa, people often moved to a distant area to withdraw cash for payment or settlement in ordinary times, but now, they do not visit banks, and in everyday shopping, too, they have an increasing chance to use mobile financial services instead of currency payment.

In Africa, too, there are increasing companies that allow the use of mobile money, integrating ICT into the area of distribution and would reduce the costs and risks of collection. In addition, insurance companies provide medical insurance services by mobile phones in cooperation with telecommunications companies or medical institutions, and it is also reported that there are cases of introducing remote control and mobile money payment services by ICT, selling solar power generators and constructing a model to reduce purchase costs according to blanket purchase. Judging from these cases, to establish competitive advantage in the African market, it is necessary to develop a joint development project with application/software developers, utilizing IT infrastructure. According to “The Opportunities of Digitizing Payments” issued by the World Bank, mobile finance is evaluated to be “convenient” and “safe” as compared to the existing cash settlement methods. Therefore, considering the impact of electronic banking on developing countries, it is expected that their governments would actively establish an electronic banking system.

3.3. Mobile Fitness

There is an increasing possibility of the spread of the medical field utilizing mobile phones in Africa, too. For example, it has become possible to detect and respond to the crisis concerning public health more quickly. It is expected that simple technologies related to migration and connectivity, too, can have a big effect on the sector of public health in developing countries. It is found that mobile medical facilities have high efficacy in the areas where the maintenance of infrastructure to eradicate malaria is delayed or where there are relatively fewer health care workers. The progress of the proliferation of mobile phones can exhibit unexpected power in the medical field, and the representative example is the Centers for Disease Control (CDC)’s prediction of the spread of the Ebola virus using the user tracking technology. In addition, Novatis, one of the world’s largest pharmaceutical companies, utilizes mobile phones in the inventory control of the medicine preventing malaria in the rural areas of Africa.

3.4. Agriculture

In the mobile economy, the sentence, “Connectivity is productivity” is commonly used. In the sector of agriculture, the kind of crops to cultivate and the period of cultivation can be judged, assessing the prices of agricultural products in the neighboring market and using information like the weather forecast.
In the situation where developing countries’ access to the rural market is blocked, there is substantial risk that agricultural products are determined by the market prices and weather, and the productivity does not improve, either, so there is a small range of increase in incomes. However, it is expected that this problem, too, can be overcome, if the mobile economy can be utilized to the maximum.

3.5. Expansion of sales/Internet sales

Nigeria E-commerce Company, JUMIA is a company called Amazon of Africa. It was founded in 2012, but it records a high-speed growth, actively expanding its business in Egypt, Morocco, Kenya, Cote D’Ivoire and Uganda as well as in Nigeria. The founders established the company, paying attention to the fact, “In Africa, the problem has always been supplies, not demands,” and “The existing shopping malls do not respond to the expansion of the middle class and their ardent desire to purchase.” Since there are many crimes like fraud, to earn trust from the purchasers, they construct and develop a sales mechanism only seen in Africa, e.g. Direct shipping by the employees, the introduction of a direct payment scheme upon the delivery of products, and delivery men’s selling after showing an image to customers who do not have a mobile phone.

4. CONCLUSION

This study analyzed the status of the proliferation of mobile phones, the status of use and problems in the African market, the representative area of the BOP market and would provide meaningful implications for the related companies. As mentioned above, in the age of the fourth industrial revolution, it is predicted that the Internet would be available for more than 75% of the world population including the population in Africa. According to the construction of infrastructure, it is expected that there will be increasing economic participation of the population that has properly benefited from the mobile economy, residing in remote areas or underdeveloped areas, and it is also judged that the accessibility to learning, healthcare and government services would increase. In addition, more people will be able to access to technological skills, the quality of employment will improve, and there will be changes in job types.

It is a straight fact that the spread of digital technologies in developing countries will expand to all areas as mentioned above. However, it is unclear that the benefits of the development of digital technologies will be given to everyone, that is, even to the poor in developing countries. Accordingly, a continuous effort should be made to prevent the new poor or new lower class. WDR 2016 emphasizes the benefits brought by digitalization, but there is still a problem that the benefits are limited to some classes. At the same time, it stresses on “the role of IT” to solve such a problem.

However, there are people alienated from the digital economy that continuously increases (60% of the population), and there is an opinion that it does not achieve a result as expected in terms of the benefits, including “the acceleration of growth,” “the expansion of employment” and “the improvement of public service.” There are many individual success stories, but actually, there are not much effects in global productivity, the expansion of opportunities for the poor/middle class, and the proliferation of responsible governance as expected. Therefore, it is judged that strategies for overcoming these problems would be needed in the future, and the specific solutions in the African market are summarized as follows:

First, it is important to promote the removal of information gap, proliferating the open and safe Internet at affordable
prices in relatively poor developing countries. Second, it is also important to induce the improvement of productivity and the price drop by promoting the competition between companies brought by digitalization. Third, it is necessary to proliferate the digital technology and develop human resources. Companies that would enter Africa should utilize marketing strategies considering the above circumstances.

REFERENCES


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![Fig.1 Change in Internet users in the world. http://www.internetlivestats.com/internet-users/](image-url)
Table 1 Cases of the mobile economy in major countries in Africa

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<thead>
<tr>
<th>Country</th>
<th>Services</th>
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<tbody>
<tr>
<td>Ghana</td>
<td>Zeepay (mobile finance), OzinboPay (mobile payment)</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Interswitch (electronic banking), Paga (mobile finance), Lidya (mobile</td>
</tr>
<tr>
<td></td>
<td>finance), Aella Credit (mobile petty loan)</td>
</tr>
<tr>
<td>South Africa</td>
<td>Emerge Mobile (card payment using a mobile phone), RainFin (fund-raising</td>
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<tr>
<td></td>
<td>matching), Wallettec (mobile finance), WizzPass (parking fee payment</td>
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<td></td>
<td>system using a mobile phone)</td>
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<tr>
<td>Kenya</td>
<td>M-PESA (mobile payment), iNuka Pap (mobile small loan/insurance), 4G</td>
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<td>Capital (mobile finance), Schield Finance (mobile loans on security of</td>
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<tr>
<td>Uganda</td>
<td>Yo! Payments (mobile money settlement)</td>
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<tr>
<td>Tanzania</td>
<td>Jamii (mobile petty-sum insurance)</td>
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