

Toward a better comprehension of complex multi SIM markets in the Sub Saharan Africa: The Kenyan case

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Abstract

Objectives

This study underlines the distortions experienced when resorting to traditional methodologies to analyze a certain type of very competitive telecom markets. In certain countries, due to both a high number of competitors and an extremely opportunistic customers' behaviour, mobile phone users massively own SIM cards from multiple telecom providers instead of only one, and swap from one provider to another on a call-by-call basis. These markets are merely called multi SIM markets. We contend that as the phenomenon of multi SIM is rapidly gaining ground and intensity in many developing markets (driven by the increasing deregulation and competition combined with the permanence of a high level of poverty), it is vital for the telecom industry to switch from traditional analytical tools and sets of indicators to a proposed methodology and a set of specific, adapted business indicators. In addition, we discuss why, though some of these indicators have already been floated by analysts for a couple of years, they are not yet in use as usual key business indicators by major players (sorting out methodological difficulties, the scarcity of data, but also the inertia of the industry), and under which conditions they could now be widely adopted.

Methods

In this survey we explore qualitatively the Kenyan mobile telecoms market which is both a typical Sub-Saharan market (allowing us to generalize our conclusions to at least other Sub-Saharan markets, and probably other developing ones) and a market in which the competition, the price decrease and the multiple SIM use are already at a high level (forcing telecom providers to tackle these challenges). Starting with the available factual data, we challenge and reshape the accepted market views thanks to ratios (e.g. number of SIM card/user, real user penetration rate) and by redefining the notions of average usage and revenues per user (AUPU and ARPU) in the context of a multi SIM market.

Results

As a result, we provide a new market perception, and a new methodology applicable to any multi SIM market.

Conclusions

This survey provides a further understanding of complex multi SIM markets, which are increasingly common in the developing countries. We contend that the new methodology and indicators developed will help Telecom marketers/strategists to better face the challenges inherent of multi SIM market

Keywords: Multi SIM market, the Kenyan and Sub Saharan African mobile telecoms markets, Strategy.

The Sub-Saharan Africa mobile market: Long term and recent trends

The understanding of the telecom sector in the Sub-Saharan Africa (SSA) has been profoundly reshaped over the course of the last decade. By the mid 1990's, when western telecom operators helped to launch mobile operations in the SSA, these operations aimed at staying as limited ones. Indeed, the market was not perceived as attractive, with general poverty and inequality levels in the highest in the world, and where fixed telephony never took off¹. Often, the created company was a state owned mobile monopoly operator (though with foreign capital and expertise), and acted as a monopoly². Mimicking the SSA fixed telecom strategies, the targeted customers were the urban very high end users, as prices were high in the face of local revenues³, and initial network deployments centred on the main conurbations of still largely rural countries⁴. Thereby, mobile service was targeting a tiny part of the population. The “per capita income is a main driver of the telecommunications services demand, determining the size of the Information and Communications Technologies (ICT) networks... Other factors that affect the provision of telecommunications services include the population size and density. Rates of fixed, mobile, and Internet penetration invariably turn out to be smaller in countries with large populations. Large populations tend to be more dispersed, and thus harder to cover by ICT networks” (Varoudakis and Rossotto, 2004, p.68).

But to the surprise of many analysts, these operations were highly successful, both in terms of penetration⁵ rate (defined as the number of active SIM⁶ cards per capita) and in terms of profit. The introduction of prepaid tariff plans⁷ was mostly credited for the initial boost: “In 1997, the introduction of a prepaid option for mobile calls boosted the number of subscribers in South of Africa to 1.9 millions, or 4 per cent of the population, a figure that exceeded initial expectations” (UNCTAD, 2008, p.257). The introduction of the prepaid option lowered the barrier to entry for cost conscious customers, allowing them to spend small amounts at a time, when they could afford it. The possibility of prepaid subscriptions contributes to the penetration growth by reducing connection fees (Zhang and Prybutok, 2005). “Households with contract mobile phone have far higher household incomes than pre-paid phone users.

¹ In SSA, fixed telephone lines are « almost exclusively located within cities and randomly in rural areas », with an average penetration of 3.1 lines per 100 inhabitants, compared to 32.4% in the Americas or 39.7% in Europe (International Telecommunication Union, 2007, p.8).

² Among others, the first mobile operators in South Africa (Vodacom), Senegal (Sonatel Mobiles), Ivory Coast (Ivoiris), Kenya (Safaricom), were the upshot of the national fixed incumbent (respectively Telkom SA, Sonatel, “Côte d’Ivoire” Telecom and Telkom Kenya), helped in a way or an other, respectively by AT&T, France Telecom and Vodafone). Still in 2006, 7.3% of the SSA countries were monopolies, 43.9% described as partially competitive, and 48.8% had achieved “full competition” (International Telecommunication Union, 2007, p.4).

³ At the end of the 90s in Kenya, Safaricom’s main tariff was 2500 Kenyan shillings to buy a mobile line, the equivalent of €33 at the time.

⁴ If some SSA countries already have sizeable urban population (Botswana 60%, Ivory Coast 49%), Kenya’s population is still 78% rural, while rural flight barely started in Uganda (Orange, 2009). All these countries were even more rural by the mid 1990’s.

⁵ By the end of 2008, the penetration rate reached 41.66% in Nigeria and 49.6% in Ghana, among the most advanced states, while it is still much below at 14.4% in the Democratic Republic of Congo and around 20% in Mozambique or Liberia (International Telecommunication Union (ITU) World Telecommunication/ICT Indicators Database, 2009).

⁶ Subscriber Identity Module, or “SIM” card, is a device used to store information in mobile phones. A unique telephone number, or line, is associated to each SIM card.

⁷ Prepaid customers recharge their accounts for a given amount that allow them to call for a predetermined duration; this is opposed to post-paid customers, that pay a regular fee plus an amount correlated with their past consumption. In an environment constituted mainly of poor customers, this accrues the ease of mobile businesses to manage and expand as no billing system is required and the payment is made in advance (Karangwa and Drouet, 2009).

Individuals with contract mobiles have, on average, a monthly income of US\$ 1797, while individuals with pre-paid mobiles have a monthly income of US\$ 423... The success of pre-paid subscription in SSA can be attributed to its appeal to people with lower or irregular incomes, since its use does not require a bank account, a physical address or a postal address, and it allows users more control over their expenses-charging the phone as money becomes available, and not spending anything if it is not" (Esselaar and Stork, 2005, p.71).

The success of the prepaid option provoked a fundamental revision of the market potential by the operators: The mobile phone is considered as useful in the private life and for economic agents that millions of potential customers would use it, even though they spend small amounts⁸. This led to a strategy shift in the way to address developing markets in the late 1990s and early 2000s, namely lowering entry barriers to dramatically expand customer databases: Firstly by increasing the mobile network coverage and secondly by lowering the customers' minimum costs of ownership (MCO)⁹, through the continuous decrease of communications prices, SIM prices, and more recently in mobile handset prices (the latter one through the introduction of specific ultra low cost handsets –ULCH- and handset subsidies). Profitability is ensured through the set-up of low-cost structure (relying widely on Chinese equipments from vendors like Huawei and ZTE as well as local manpower which receive low wages) that matches the network rollout spending and MCO¹⁰.

This strategy has been presented as a huge success so far, presiding "the fastest growing mobile market in the world with penetration rising from a few percent in 2002 to more than 27% today (number of active SIMs per capita) (...) Declining tariffs and handsets have enabled millions of people to access communication services for the first time. There is still large growth potential, and we expect penetration to double to 60% by 2012 on the back of tariffs and handsets getting even cheaper and broader network coverage. (...) Sub Saharan markets have (...) been highly profitable for large operators that have earned Ebitda margin of up to 60%." (Karangwa and Drouet, 2009, p.p.2-3).

Nonetheless, the current situation is not without drawbacks. As the first entrants began piling up millions of new customer each year, the potential of Sub Saharan markets (among other developing countries) became apparent to many more mobile operators. "Reflecting the rapid pace of innovation in ICT, competitive forces are becoming increasingly important in the provision of telecommunication and networking services." (Varoudakis and Rossotto, 2004, p59). Hence, several new mobile operators entered into the African market, reinforcing the competition and driving prices further down in unknown proportions in western markets¹¹. As a result the Sub Saharan markets are currently very fragmented, as 150 operators in 49

⁸ The "Cell phones are popular in Africa because of the predominance of oral cultures and the relatively low literacy rate. (...); cell phones in villages have cut down on travel time for users who had previously gone to regional towns in order to make a call" (McCormick and Onjala, 2007, p31). Much has been written about the specific impact of mobile phone in developing countries. Though offering a counter analysis, Jagun et al. (2008) provide a useful bibliography on this topic.

⁹ « From the customer perspective, the main force behind the rapid mobile service uptake involves the MCO, which itself is driven by upfront costs (e.g. handset purchase and activation charges) on ongoing expenses or the minimum charges required to remain as an active subscriber. For low-end subscribers in particular, the upfront cost-even though a one-time charge- may represent a significant entry barrier" (Dutta and Mia,2009, p69)

¹⁰ For a detailed discussion on the best MCO setting in the light of a given cost structure, see (Dutta and Mia, 2009, pp69-70).

¹¹ In June 2009, there were 7 operators in Nigeria, 6 operators in Ivory Coast and Uganda, 5 in Ghana and Guinea.

African countries, among them 5 big groups¹², African or otherwise, compete for about 1 billion inhabitants in Africa.

At the same time, as operators proffer to expand their network and thereby the customer databases they target farther away rural regions. In these locations, the revenue par capita is much lower which spawns a fall of the Average Revenue per User (ARPU). The ARPU is a very common indicator for telecom operators, measuring revenue per SIM card, taken as proxy for the number of users, very often on a monthly basis. The ARPU is equal to the overall revenue divided by the number of SIMs. In the same vein, the AUPU, an indicator measuring the traffic (in minutes) generated by a SIM card, is often also calculated on a monthly basis by dividing the total traffic provided by an operator in a month, divided by the number of SIMs cards.

The average minute price of an operator on a market is then calculated simply: The Average Minute Price is equal to the ARPU divided by the AUPU.

It comes also from this relation: The $ARPU = (\text{average minute price} * \text{traffic (minutes)}) / \text{Number of SIMs}$.

The decrease in prices and in the ARPU didn't worry operators much, as long as the tremendous growth in customer databases and the decrease in operating and capital expenses did more than compensating these negative trends, sustaining a very profitable growth. But more recently, some disparaging phenomena appeared: A de-correlation between the ARPU and the price decrease conceded by operators has been noticed. In the short term, this de-correlation is indiscernible in the overall the ARPU fall due to heated competition. However, this was very often translated into an ARPU falling more than the price cut on the long term. The financial and economic crisis which has hit the American economy, then spread all around the world in 2008, and also recently hit SSA countries would constitute an easy explanation. It had certainly an impact on usage. Nevertheless, if the crisis indeed increased the fall of the ARPU, the de-correlation is a different phenomenon, that had started even before.

Peculiarities of sub-Saharan markets

Let's observe again the ARPU formula: The $ARPU = (\text{average minute price} * \text{traffic (minutes)}) / \text{Number of SIMs}$

If we assume that an operator gives a fair account of its prices and traffic (it generally does), the ARPU and the minute price should be correlated. If they are not, then the issue must be in the customer database assessment. Indeed, several phenomena concur to blur the picture regarding operators' customer databases. In a seminal article, Gartner (2006, p.46), had already identified most of these issues, stating that "the total connections figures reported by operators provide a distorted view because of inactive users, multiple SIM cards and multiple devices per person". As we will see it further, inactive users make up is indeed a big issue, to be addressed in the wider context of the difficult statement of customer databases. The second issue resides in the approximation done by operators when talking about their customer databases. In fact, they deal with SIM cards, which, in the context of African markets, are not always a very precise proxy for the number of customers, as multiple SIM cards is a common phenomenon there.

¹² MTN, Orascom, Vodafone, Orange and Zain are the biggest groups present in Africa and the Middle East, and make for 30% of the total market, assessed at €77 billion in 2008. In the northern America, the five biggest players make for 73% of the market; in Europe, trans-national operators account for roughly 50% of the market (Orange, 2009)

Assessing customer databases is by no mean an easy task in the African context, due to data availability and accuracy concerns. Developing countries data are known to be less accurate than those in western economies, and particularly so in the SSA¹³. Besides the issues like retention or over declaration, a specificity of the Sub Saharan market is that it has mostly grown with prepaid tariff plans. As a result, nearly all customers are prepaid customers¹⁴. And this has nonetheless an important impact on the way customer databases are assessed. In the post-paid world, the process is simple; a customer who pays its monthly fee is a customer. If he ceases to pay, or inform his operator that he wants to quit, he is no longer considered as customer.

On the contrary, prepaid customers can decide anytime to stop consuming on their SIM card, or switch to another operator, without their current operator being aware of this. Thus, operators have to rely upon traffic data to determine whether a SIM card is still active or not i.e. if the SIM card is still in use, or has been dumped without further notice. Thus, this is only after a time without traffic that an operator considers a prepaid SIM card as inactive (even in the case the SIM is still registered in the operator's database). Moreover, after a longer while, the SIM number is generally erased from the operator's database. But, whereas in developed countries, the regulation authority often provides a common definition of what is an active customer, this is not the case in most of SSA countries. Thereby, each operator may offer its own definition, introducing distortions in the actual active SIM cards base¹⁵. Moreover, the inactivity level is boosted by the operators' policy of lowering barriers to entry; as they offer a SIM card for free or quasi free, customers tend to use the SIM card as a scratch card (recharge card), that is, buying the SIM card for the credit that is on it, and ceasing to use the SIM card as soon as the credit is exhausted.

Nonetheless, this is relatively easy to correct. Through different traffic assessment techniques¹⁶, it is also possible for an operator to obtain a fair account of its competitors' active customer databases.

The other stated difficulty is the implicit assumption of operators, speaking about the ARPU and the AUPU, that there is a bijection (a one-to-one correspondence) between the number of SIM cards and the number of users. They sell chips, and count a customer each time. This approximation works rather well in western markets, but much less in the Sub Saharan ones, where consumers share their consumptions among multiple operators by buying more than

¹³ In its last report, the Penn World Table (PWT) reckons that data for all SSA countries have margin of errors of 30 to 40%.

¹⁴ The ITU provided the figure of 92% prepaid in 2007 (International Telecommunication Union, 2007). Karangwa and Drouet (2009, p.9) states that "in most SSA markets except South Africa, typically 99% of subscribers are prepaid », which is consistent with the latest Zain gives 99% prepaid in June 09, Safaricom (2009) and Orange Kenya (Orange, 2009) report similar number.

¹⁵ MTN Definition: Subscribers are customers who have participated in a revenue generating activity in the last 90 days. South African subscribers include community service payphones into prepaid and application providers into post-paid (MTN, 2009). The Zain active customer definition is : customers who have made a chargeable event within the previous 90 days period (Zain 2009, p.2). The Orange definition is much more restrictive, the existing definition of prepay inactivity is "no outbound chargeable events and less than 4 inbound chargeable events within a 3 month period". This means that a customer is inactive if he/she makes no outgoing chargeable events and receives less than 4 chargeable events incoming events in a 3 month period. The current Orange definition of a chargeable event includes any event where a contractual charge is associated with the usage of the phone. Nonetheless, for local communication purpose, a definition in line with the one of its competitors is used.

¹⁶ Directing the traffic going to and coming from other operators, each operator knows which of its competitors' customers are active « off-net » users (users who call from on operator to another). It then only have to guess the number of active « on net » users (users that only call numbers of the same operator, in order to reduce prices).

one SIM card. This phenomenon of multi-SIM markets is widely known on the ground, and has been acknowledged in several countries i.e. in some European ones¹⁷ and in all Sub-Saharan countries. Nonetheless, it has not been embarked in ad-hoc indicators.

The consequences of this particular market feature are nonetheless important. As people are considered poor, they can be qualified as cost conscious customers. They keep trying to optimize their costs. In these conditions, we proffer to a quasi-pure and perfect competition as customers change of SIM to call different people, at different times of the day, depending on the best tariff. A number of people even sometimes have different SIM cards for the same operator, with different tariff plans! While marketing teams have duly adapted themselves to these realities (no operator now pirates it anymore by proposing cannibalizing offers), it seems that all consequences have not yet been drawn at a profound level. Thus, the explanation of the ARPU fall is correlated with the degree of competition but not exactly (or only) due to the impact of a price decrease, rather to the multi SIM. In the case of Cameroon, the price decrease is rather an ARPU booster, or is at least neutral (it has a good elasticity), until now. In such a condition, the more operators exist, the less each of them receives from one customer. In that sense, the increased competition is indeed a driver for additional ARPU decrease, not only through direct price decrease, but also through customer value grabbing, as old customers of incumbent operators start to buy SIM cards from new entrants and share their consumptions.

Multiple SIM cards and multiple devices per person is more or less the same phenomenon. Although it is indeed more practical to have as many handsets as SIM cards, allowing permanently the receiving or the emitting call from any SIM, having more than two handsets on, at the same time is still rare. People with multiple SIM cards and only one handset have a tendency to develop an extreme ability to swap SIM cards in a record time when convenient. The development of multi SIM handsets could further impact behaviours. In the meantime, the number of devices per person is not seen as an influential behavioural or financial driver. Another phenomenon is that some people share SIM cards on an everyday basis. This practice is limited in Europe regarding mobile, but relatively frequent in SSA countries, although the practice may now be on the decline due to the decrease of the initial SIM price¹⁸. Among African countries, several people frequently share a single mobile phone, especially in poor, rural communities (UNCTAD, 2006). Yet, in the cities, many people start a “call box” business, with a mobile phone and SIM cards under an umbrella, reselling minutes on the street for a fee. One direct consequence of the policy of many operators to offer SIM cards for free or quasi free is that these call boxes tend to use SIM cards as scratch cards too, further blurring the operators statistics on a large scale. Many operators now try to treat these call boxes as specific, business customers, with more or less success.

Consequences on the set of indicators used by operators

Gartner (2006) perceives consequences in real penetration rates that can be much lower than what is usually described by applying a correcting ratio of SIM card per real user. We propose

¹⁷ The multi SIM card is also gradually developing in Europe (especially in Italy). In that case, most of the time people have one personal and one business phone.

¹⁸ This phenomenon is better known in Europe for fixed lines, where, in a home, different family members use or have used the same fixed lines. But this never was an issue, as on the fixed phone, their never was an implicit assumption of a one-to-one relationship between a phone line and a single user, rather one line per home on the mass market.

a full reassessment of indicators using this SIM card per user ratio, as well as a methodology to study a market with this new set of indicators.

The current widely accepted indicators on the mobile market are:

- *Penetration rate* = $\frac{\text{Total number of SIM cards on the market}}{\text{Total population}}$. Generally expressed in % of total population.
- *The Average Revenue Per User*, the *ARPU* = $\frac{\text{Revenue generated by mobile users}}{\text{Number of SIM cards}}$. Generally expressed in monetary unit (implicitly per SIM card per period of time, often a month or a year), it can be used at a market level, or at an operator level.
- *The Average Usage Per User*, the *AUPU* = $\frac{\text{Traffic generated by mobile users}}{\text{Number of SIM cards}}$. Generally expressed in minutes (implicitly per SIM card per period of time, often a month or a year), it can be used at a market level, or at an operator level.

We propose the following changes:

- We introduce the SIM card per user ratio :

$$\sigma = \frac{\text{Total number of active SIM cards on the market}}{\text{Total number of users on the market}}$$
- The *penetration rate* is renamed as *Gross penetration rate*.

$$\text{Gross penetration rate} = \frac{\text{Total number of active SIM cards on the market}}{\text{Total population}}$$
- We define the *Net penetration rate*:

$$\begin{aligned} \text{Net penetration rate} &= \frac{\text{Total number of users on the market}}{\text{Total population}} \\ &= \frac{\text{Total number of active SIM cards on the market}}{\sigma * \text{Total population}} \end{aligned}$$
- The *ARPU* is renamed as *Average Revenue Per active SIM card* (*ARPAS*):

$$\text{ARPAS} = \frac{\text{Revenue generated by mobile users}}{\text{Number of active SIM cards}}$$
- The *AUPU* is renamed *Average Usage Per SIM card* (*AUPAS*)

$$\text{AUPAS} = \frac{\text{Traffic generated by mobile users}}{\text{Number of active SIM cards}}$$
- The *ARPU* is now defined as *ARPAS*SIM card per user*:

$$\text{ARPU} = \frac{\text{Revenue generated by mobile users}}{\text{Number of users}} = \sigma * \text{ARPAS}$$

- The AUPU is now defined as

$$AUPU = \frac{\text{Traffic generated by mobile users}}{\text{Number of users}} = \sigma * AUPAS$$

The methodology to be followed to get the right strategic indicators is:

Firstly, assess the number of active SIMs that are on the market by relying of the operators' reporting when available, or choosing a definition of an acting user and applying it to the technical evaluation of the competitors database. After, mobile operators must assess the number of SIMs by customer. Finally, they have to restate the indicators with the help of this ratio.

Application: The Kenyan case.

Overview of the Kenyan Market

The Kenyan mobile market was born in 1993, with the start of the country's first mobile network, Safaricom¹⁹. It was at that time a state-owned mobile monopoly operator. Safaricom was privatized in 1997 and stayed the only player for several years until the introduction of competition in 2000 when KenCell entered the market. Various owners subsequently took the control of this company, which is now known as Zain Kenya, a subsidiary of a Kuwaiti group²⁰. Yet, as a result of its later entry, it took off only slowly, and despite an early customer perception of higher network quality, it has stayed far below Safaricom's performance. The 3rd and 4th operators i.e. Orange, a subsidiary of the French group France Telecom, and Yu, a subsidiary of the Indian group Essar, entered into the market only recently, respectively in September and December 2008²¹. This has been spawned by a governmental bid to foster the price decrease and the market growth through increased competition in this 39 millions inhabitant country.

The regulator of the Kenyan telecom market, the Communications Commission of Kenya (CCK) provides regular market reports. In addition, as all 3 main players are public companies or subsidiaries of public company²², data are generally available.

Assessing real active customer databases in Kenya:

Definitions provided by the Kenyan operators:

- Zain defines an active subscriber as one who has made a chargeable event within the previous 90 day period. (Zain 2009, p.2)

¹⁹ Safaricom's website <http://www.safaricom.co.ke/index.php?id=30>

²⁰ Bouillaguet, J. B. and Vavruska, D. (2009), p.20

²¹ Ibid.

²² Safaricom is listed on Nairobi's stock market. Zain Kenya is a subsidiary of Zain Group, listed on the Kuwait Stock Exchange. Telkom Kenya/Orange is a subsidiary of France Telecom, listed in Paris and New York. All three companies provide regular financial and activity reports.

- Safaricom defines active subscribers as customers who have made or received a chargeable event during the previous month. (Safaricom 2008, p.54)
- Orange defines inactive subscribers as customers who have made no chargeable event and received less than four inbound chargeable events within a period of three months. (Orange 2009)
- We could not find a definition for Yu active subscriber base

In the Kenyan case, based upon the public figures published (June 09)

- Safaricom stands at 13.3 million active users²³
- Zain announces 2,418 million active users in June 2009²⁴.
- Orange 1 millions subscribers (local definition, Source Orange Kenya).
- Yu declares 0.4 million subscribers

This would give a 17.1 SIM cards in circulation in Kenya in June 09. Overall, we will estimate the real active SIM card base at 15.7 million (based on spotted trafficking SIM cards). However, as said before, we now have to take into account the multi SIM effect.

Devising Kenya SIM card/ user:

The hypotheses made are:

- In Kenya, every person who is a mobile phone user has a Safaricom SIM card i.e. the total market size is 13.3 millions customers (and not 16,8 million as could be assessed at first glance). Indeed, it is the first entrant and it has the wider coverage over the country. Safaricom is a no brainer choice for anyone wanting to have a mobile phone.
- As a consequence, all Zain, Orange and Yu customers do also have a Safaricom card
- Orange customers and Zain customers divide themselves between those who have two SIM cards i.e. Safaricom+Orange or Safaricom+Zain, and those who have three cards. Nevertheless, whatever is the exact split, this does not change the result.

Results as of June 2009:

$$\sigma_{Kenya} = \frac{\text{Total number of active SIM cards on the market}}{\text{Total number of users on the market}} = \frac{15.7}{13.3} = 1.1805$$

Traditional method results	New method results
Market Penetration rate: 17.1/39=43,8%	Net Penetration rate: 13.3/39=34,1%
Market ARPU=KES 444 (€4,30)	ARPU=KES 524 (€ 5,08)

²³ Safaricom (2009)

²⁴ Zain (2009)

Using the same methodology and assumptions based upon ING figures²⁵ on a longer period of time, we find similar results, with a ratio of 1.19 in March 2009.

	September 2006	March 2007	September 2007	March 2008	September 2008	March 2009
Safaricom	77,90%	79,00%	81,30%	85,00%	86,20%	83,70%
Zain	22,10%	21,00%	18,70%	15,00%	13,80%	14,60%
Orange	0,00%	0,00%	0,00%	0,00%	0,00%	1,70%
σ Kenya	1,28	1,27	1,23	1,18	1,16	1,19

Discussion on methodology in the light of the Kenyan case:

What is easy to devise in the case of Kenya (which may not be that easy for other countries) is that one player has 100% market shares and there are recent entrants. In many countries, market studies will be needed to know more about consumer habits, especially in these countries where such studies are lacking.

Nonetheless, given the importance of the phenomenon, it is now important to study it more.

Discussion on results

SIM Card/user

At first glance, the number of SIM cards/user does not seem very high. Gartner (2006) states that this ratio is 1.75 for Italy. Nevertheless, we have to take into account that we do not compare markets that are at the same stage of their development. Italy is an already mature market, with an (uncorrected) penetration rate of more than 100%²⁶. In Kenya, many connected people do still have only one SIM, and the (uncorrected) penetration rate is only around 43.8% (corrected: 34.1%).

Yet, the seemingly erratic evolution of the multi SIM ratio between September 2006 and September 2008 is mainly due to Zain being seemingly driven out of the market, before a rebound and a continuous increase of σ since September 2008. With the renewed competitive pressure introduced by the arrival of two new operators, this ratio will thus probably continue to grow as part of new SIMs sold will be provided to people that already are customers of an operator, and not totally new customers.

Market reassessment: Is the market as good as generally thought?

Thereby, it is even better as the penetration rate is lower than previously thought, meaning there is still more potential for growth. The market ARPU is also better than previously thought, but this does not make each operator's revenues more important per se, unless the operator fights to gain weight in each customer consuming mix.

²⁵ Bouillaguet, J. B. and Vavruska, D. (2009), p.19

²⁶ In 2006, Africa had a penetration of mobile cellular subscribers per 100 inhabitants of 22.0, the Americas of 62.0, Asia of 29.3, Europe of 94.3 and Oceania of 72.6 (ITU, 2007).

Strategy reassessment and new possibilities:

Facing increased competition, including on customer the own but who share their fidelities among different providers, mobile operators have to fight even harder for the existing customer: It is not enough to be the "number one" or the "number two" on the market. In fact, you must be the "SIM of reference" for your customer basis, in order to get the bigger share of the market. Thus, the target of companies is to provide the necessary conditions to their customers to use all the time the same SIM card. The customer basis expansion does not imply that customers switch entirely to you in one day, but rather gradually increase your value share for this customer in comparison with other operators.

The continuous network (rural) extension constitutes a mixed case: As the penetration rate is lower than previously thought, it may mean that the rural area does not buy SIM cards at the expected rate. Nonetheless, this should be confirmed by field studies done on the ground market. And yet, a less than expected penetrated market is also a market with more opportunities than expected.

Lowering barriers to entry: Concerning that point, a serious thinking should be held, notably on the free SIM card and subsidised handset's policies. Indeed, subsidised handset may go to already equipped people, while free SIM cards introduce an unwelcome blurring effect between costly SIM cards and recharge cards that cost much less, for a less than clear reward for the operators.

The continuous price decrease of mobile voice leads to its commoditisation. This trend is probably not avoidable, but up to which point can prices decrease? The continuing cost decrease of networks creates rooms for manoeuvre, but only up to a point.

Conclusion

Notwithstanding all these elements, the situation is not as bleak as it seems. In fact, although we provide caveats about the necessary reassessment of the African markets, there are other specificities of these markets that hold ground for optimism. Yet, the loose regulation opened the ground for experiments like mobile banking to be done easily, quickly at a low expense rate compared to what has been done in mature countries. In addition, as these African nations lack many infrastructures (cable, buildings among others) as well as services (e.g. post office and banking system) and many people can not access these services as they do not have any address and bank accounts, various mobile services can be developed allowing a vertical concentration to the mobile operator. Thus, these companies can increase the profits by increasing the activities with a high added value. Thereby, the mobile network deployed respecting the three main factors which affect market openness in telecommunications i.e. the degree of competition, openness to Foreign Direct Investment and pro-competitive regulation (and independence of the regulation body), leverage the economy (Varoudakis and Rossotto, 2004). This in turn increases the telecom market for these countries and thereafter their revenues by getting a multiplier effect.

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