

APPLICATIONS FOR EMERGING ECONOMIES

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4 Transfer of services to emerging markets – mobile services, m-payment & m-health

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Introduction

Transferring of services from one market to another can bring economy of scales to the development effort and help to enable service transparency for international roamers. In particular, transfer of services from developed markets to emerging markets can help to accelerate the pace of development in emerging markets and equalize the service parity between countries. Yet emerging markets have many characteristics that differentiate them from the developed world. Some are positive, such as the huge user base and strong growth potential, while others can present challenges, such as the relatively lower income level and weaker literacy rates. When considering providing or transferring services to emerging markets, the inherent market characteristics frequently demand service providers to adjust their strategic mindsets to best meet the local requirements in order to make the greatest impact.

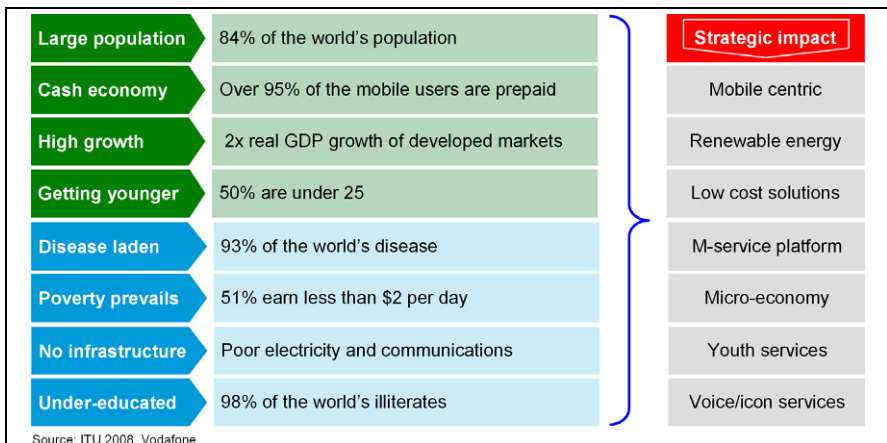


Figure 1. Market characteristics drive a different mindset for providing services to emerging markets.

Within the wireless industry, the transfer of services from the developed world to emerging markets has happened for a long time and was met with different degrees of success. In this paper we picked three examples to illustrate the points. These three services are basic voice and data service, m-payment and m-health. This will help us understand the salient issues that underscore the success factors and barriers with those global undertakings.

Basic voice and data services

One of the most successful service transfers from the developed world to emerging markets in history is indeed mobile voice and text messaging services. In particular voice and text messaging have seen tremendous uptake across all emerging economies within a short period of time over the last decade. The lack of fixed infrastructure to provide adequate basic communication services has offered wireless technology-based services an unprecedented opportunity to serve the mass public, especially when the commercial and regulatory conditions are favourable. The strong uptakes of mobile subscriptions across many parts of the emerging world over the past few years are strong testimonies to this point.

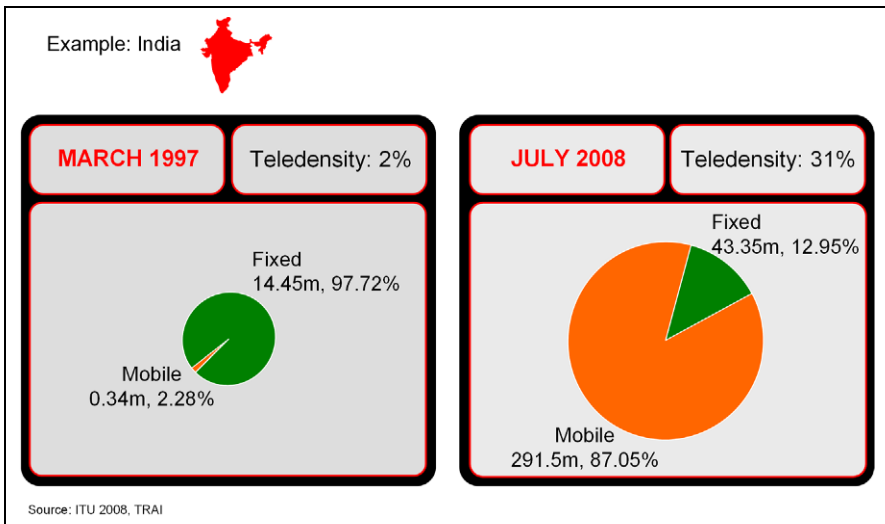


Figure 2. The successful growth of mobile communications in India.

As a whole, the phenomenal success with the transfer of basic mobile voice and data services from the developed world to emerging markets highlights that these services fulfil fundamental needs of communications by people regardless of regions. The transfer of mobile Internet based on data services in recent time is also seen to experience increasing success. Once again the inherent desire of people and businesses to access the Internet and web services has created the strong demand

for mobile Internet, especially for locations where fixed infrastructure provisioning is inadequate or non-existing.

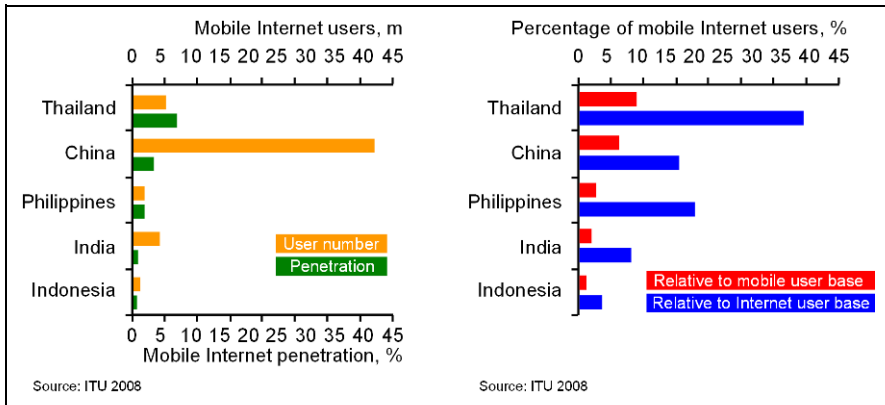


Figure 3. An increasing number of users in low and lower-middle income economies are using mobile phone as browser to access the Internet – the Mobile Internet phenomenon.

The success of the basic voice and data services indeed provided a platform for other mobile related services to evolve. However, over the history of the cellular industry, the degrees of success have not been uniform and some are more so than the others.

Mobile payment

Following the proliferation of basic mobile voice and data services into emerging markets, mobile micro-finance became the next story of success. This happens across many parts of the developing world and has benefited many countries with migrant workers working abroad as well as those with a population of low income families.

In particular, mobile payment and micro-money transfer services, as exemplified by M-PESA in Kenya, have demonstrated the popularity of micro-finance services as they tend to match the needs of the local users extremely well. This empowers people to make payment incrementally and independently in alignment with the way they are paid by their employers or customers as well as the style of spending money where many of the people are accustomed.

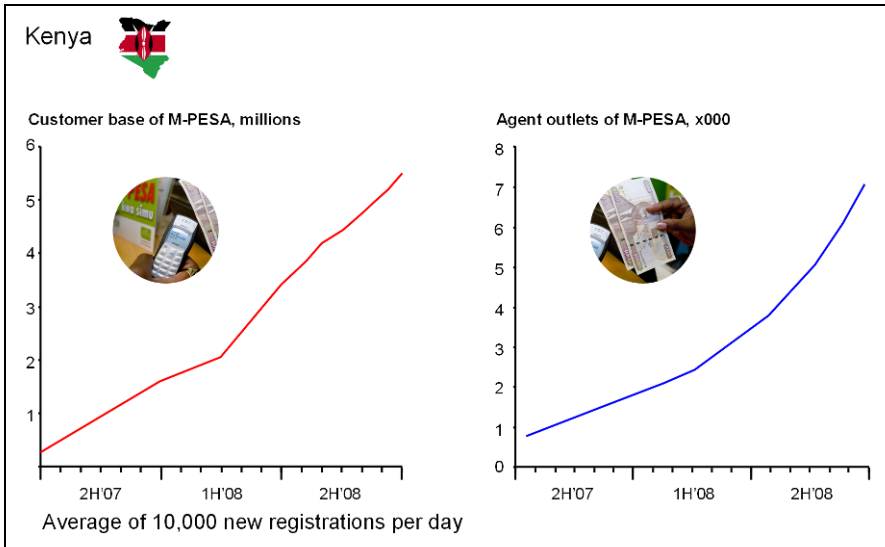


Figure 4. The strong growth of M-PESA as driven by the popularity of the service is reflected in both the growth in the customer base as well as the number of outlets where transactions can be conducted.

With the broad acceptance of mobile pre-paid services, the inherent trust to the mobile operators as honest brokers for the micro-financial transactions has greatly helped the proliferation of M-PESA. Users tend to trust the major mobile brands as a reliable and secure means to hold and transfer money to third parties. The requirement of topping-up pre-paid airtime also make people more accustomed to, and develop the habit and comfort of, storing money with the mobile operator through the mobile handset in anticipation of future service utilisation.

The development of M-PESA from a concept to the first service launch took a long incubation time of multiple years and a large investment of capital in terms of millions of Euros. In addition, there were also some iterations of strategy correction of during the service development process. Although there is significant success of m-payment among the emerging markets, it is interesting to note that in the developed world, the service has not been successful at all for many of the reasons including regulatory constraints to the established habits of consumers using credit cards and the established infrastructure surrounding the payment industry.

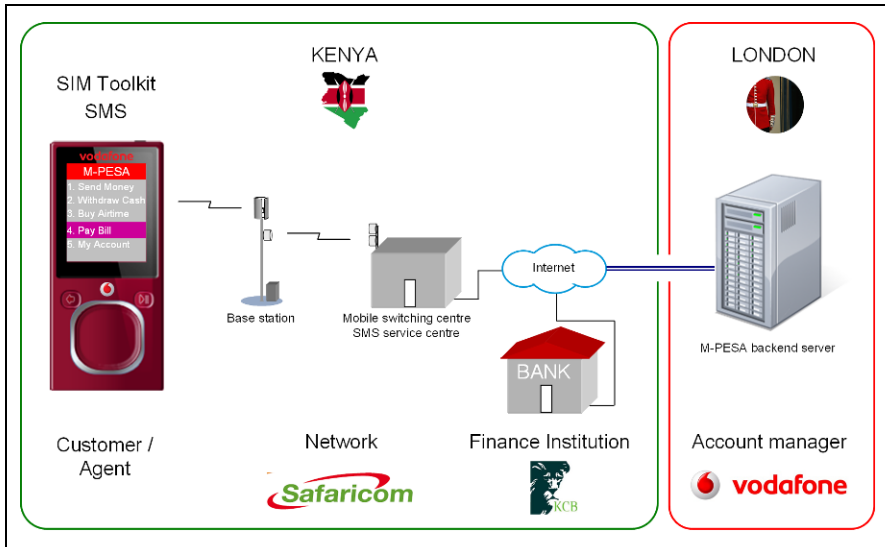


Figure 5. A simplified architecture of M-PESA showing the infrastructure within the serving country and the hosting country.

The success of a service may not always dependent on technology complexity. For instance, in the case of M-PESA, the top level architecture of the system is rather simple. The data centre is residing in the UK with the local operator in the country only needed to provide the access infrastructure and the support a network of local agents. With this architecture, the system can be easily replicated from market to market. Among others, one of the long term goals of M-PESA is, perhaps, to facilitate not only micro-money transfer within one market but to enable international micro money transfers. This could be particularly useful for countries with migrant workers and people frequently travel between them.

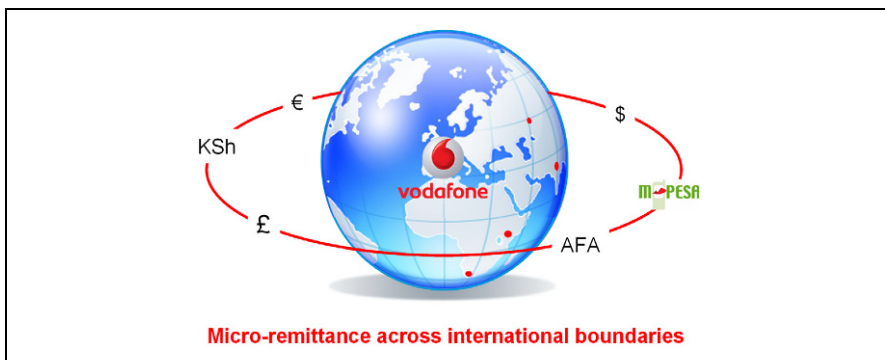


Figure 6. The concept of micro-money transfer across international boundaries.

Some of the key success factors with M-PESA included focusing on services that are useful to the mass public and that the service is reliable to gain confidence among the agents and the end-users. However, with any financial services, they are risk exposures to fraud and malpractices. These need to be closely monitored by the operator to ensure traceability of all transactions and detect any unusual pattern of activities. In addition, with any successful service, competitors will attempt to replicate the service and fight for market share sooner or later.

Mobile health

Healthcare has been a challenging topic for many emerging markets. With the proliferation of cellular infrastructure and devices, leveraging m-health to provide better healthcare to emerging markets becomes a possibility. As a whole m-health is still a challenging business across the world. Finding the right business model and monetising on the opportunity has not been easy. In the developed world, m-Health has taken a long incubation period but so far there is only very limited success. For instance, liability has been an issue that limits the proliferation of the m-health services to the mass public.

For emerging markets, m-Health may potentially play a vital role in enhancing the healthcare system, especially in transforming healthcare from a facility based service to community based system. This can enable healthcare workers to reach out to the mass public in the more remote or rural locations, where it is inconvenient for individuals to travel to clinics or hospitals that are only available in major towns and cities. Healthcare workers equipped with smart phones and intelligent software clients can bridge the gap between the scarce resource of doctors and medical experts and the vast number of patients in the field. Patient information can be sent to medical experts in the hospital for diagnosis and opinion as needed.

Together with remote diagnostics techniques and equipment, community based m-health could have a profound effect in responding quickly to potential disease outbreaks. That said, funding is still a challenge as there is generally no public healthcare network or medical insurance system among many emerging markets that can help to finance the scheme. The ability to make a profit could be even more challenging. Time will tell if sustainable business models can be found to support the community based m-health services.

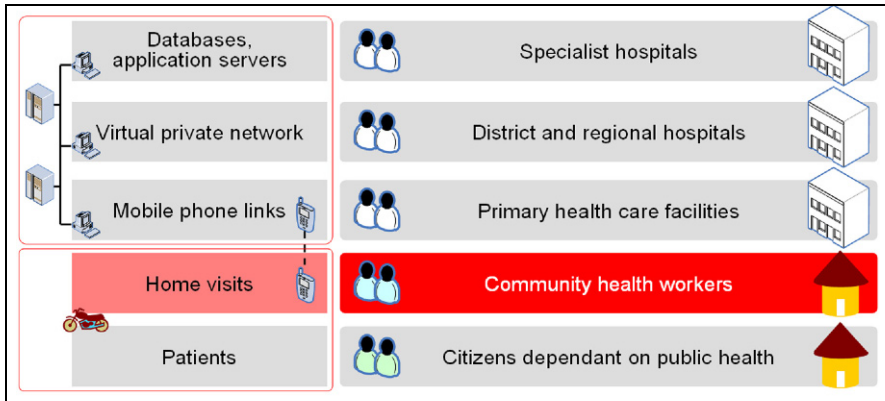


Figure 7. The concept of community based healthcare as facilitated by mobile phones

Paths of service transfer

Apart from the transfer of services from developed markets to emerging ones, the process will not be complete if service transfers among emerging markets cannot be efficiently conducted. From time to time, the regulatory regime, cultural differences and social needs could hinder the full adoption of solutions that was optimized for another market. Adjusting the service platform to meet the needs of a different country is frequently needed. The implication is that service developers have to build in flexibility in the service platform to cope with potential differences in user preference during the service development cycle.

In the long term, we would expect “reverse transfer” of services from the emerging markets back to the developed world. This may not be as easy, as by definition the developed world is supposed to be more advanced technologically and have more development resources than their emerging market counterparts in developing new services for some time to come. That said, many of the situations are common between emerging and developed markets and the former may be more motivated to optimise solutions early due to the inherent local and competitive constraints and practical needs.

Examples of situations where emerging markets could take a lead in driving technology developments that are also relevant to the developed world may include the desire to reach out to areas of low population and/or the bottom of the social strata within the developed world. These have much resemblance to the conditions in many emerging markets. In addition, the need to optimise/reduce cost to provide services as well as minimise energy consumption would be generally welcomed across both emerging and developed markets alike. Though limited as it stands, it is expected more transfer of services from emerging markets to the developed world

will happen in the future. This will enable both the service providers and ultimately the end-users to benefit from the investment in service developments within the emerging markets.

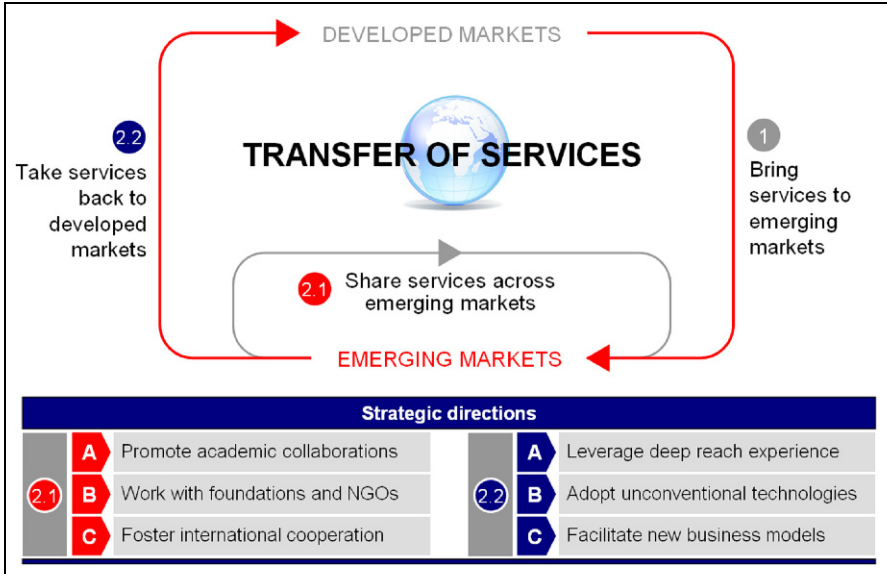


Figure 8. The closed paths of service transfer between developed markets and emerging markets and transfer between emerging markets.

To facilitate this, closer collaboration between mobile service providers with academia in both developed and emerging markets will be essential to help to better understand the needs and facilitate the development of appropriate solutions to meet local market needs. Likewise, collaboration with both government agencies and non-government organisations would also be prudent as these people have great insight into the dynamics and behaviour of users in emerging markets and can help to foster international collaborations in more meaningful ways.

Conclusion

We are seeing successful service transfers from the developed world to emerging markets where the services can fulfil basic needs of people. The general lack of fixed infrastructure in emerging markets has rendered mobile based services very popular as it can bring services to the mass public across large geographical areas quickly and, thanks to the economies of scale, they also come at relatively affordable prices. The challenge is to enable more services to be transferred with sustainable business models. An even bigger challenge for mobile service providers is to facilitate services to be transferred across emerging markets and even back to the

developed world in the long run. If these service transfer paths can be realised, the effort of service development in both the developed and emerging worlds is expected to be even better leveraged and utilised.

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