

# Fact Sheet

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Photo Credit Psitek

## Psitek: How to bring affordable telecommunication to emerging markets

The emergence of mobile telephony and cellular technology over the last 18 years has had a major impact on the economies the emerging world, and particularly in Africa. Traditional landline technology was never widely available in Africa, for reasons linked to infrastructural constraints, the overall inefficiency of state-controlled national telephone companies and the prohibitive cost of telephone services. Demand for communications however was huge, and gradually unlocked by the emergence of mobile telephony and cellular technology. Despite a very strong growth in call volumes, as a result of mobile phone penetration, there remains a significant proportion of people in lower income segments in emerging markets who cannot afford their own handsets, or have limited access to telecommunication services. For these income segments at the base of the pyramid (BoP), solutions have appeared across developing markets in the form of public payphones, aimed at providing universal access to telecommunication services.

This fact sheet will focus on how Psitek (Pty) Ltd, a South African company based in Cape Town, has been providing those solutions across both local and international markets, specifically targeting the BOP segment.

### Situational information

#### a. Corporate ID<sup>1</sup>

Psitek (Pty) Ltd was founded in 1990 and now employs approximately 400 people. Since inception, it has gradually grown to

include branch offices in Johannesburg, Nairobi and Algiers ; a subsidiary in Brazil, and joint venture partnerships in Turkey, Mexico and Colombia. In addition to these entities, Psitek has a network of resellers across emerging markets.

Over the past two decades, Psitek's local and international exposure to emerging markets have enabled the company to build a solid knowledge base on how to service the lower income segments.

Venfin, a division of the Rembrandt Group, is

a major shareholder of Psitek, with a shareholding of 28%, while the remainder of

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“Responsible Entrepreneurship is a concept and a process whereby entrepreneurial enterprises integrate social and environmental concerns in their business operations and in their interactions with their stakeholders.”

UNDP, 2008

<sup>1</sup> Source : [www.psitek.com](http://www.psitek.com)

### Key figures (worldwide):

- Consolidated turnover: Rand 316m
- Employees: 400

the share capital is privately held.

#### b. Case background: The growth of mobile phone communications in emerging countries

When Psitek was founded in 1990, it initially designed telephone metering devices, while at the same time developing the world's first anti-line tampering solution for South Africa's fixed line network. The global telecommunications landscape was, however, on the brink of revolutionary changes with the birth of mobile telephony. In 1994, the new democratic South African government, freshly elected on a mandate to reduce poverty and bring tangible improvements to the lives of the lower income segments, linked the granting of network licences for mobile phone companies to a commitment by them to reach out to under-served areas. This requirement eventually led to the development of the community phonestop concept in townships and rural areas, most often run as micro-franchises of the main mobile phone network operators Vodacom, MTN and Cell C<sup>2</sup>.

With the stage thus set, Psitek identified under-served markets as a potential source of growth for the type of technology it was developing. It was becoming clear that mobile telephony and cellular technology were taking off very fast, and that growth was exceeding expectations by a wide margin: In fact, when Vodacom was granted their GSM license in 1993, they predicted their customer base would peak at 500,000<sup>3</sup>. Fifteen years later, that client base had grown to 23.3 million in South Africa alone<sup>4</sup>. Worldwide, it is estimated that mobile phone users will exceed 5 billion by 2015<sup>5</sup>.

Despite the growth in mobile subscribers, a large proportion of people in

lower income segments are still unable to afford their own handset or purchase prepaid airtime, and depend on other channels to make phone calls: For example, community phonestops, informal entrepreneurs selling airtime and renting their handsets on the streets, or friends, family and neighbors. It is this market that Psitek has been catering for, developing products specifically needed by phonestops and informal resellers. South Africa became the first country in the world to introduce a dedicated GSM payphone, manufactured by Psitek and Siemens.

## 2. Targeting the BoP – the business case for Psitek

Telephone communications bring undeniable economic, social and individual benefits to the BoP:

- **Economically**, micro-enterprises and informal businesses can grow in size and efficiency, and have access to the convenience of mobile banking, ordering of products, providing reliable information on market conditions, or communicating with buyers.<sup>7</sup> Easily available telephone communications also save journeys and associated costs.
- **Social and individual benefits**, for their part, include things such as highly improved access to medical assistance, improved law enforcement, better disaster communication, the ability to contact relatives, send remittances, or search for employment in a much more efficient manner.<sup>8</sup>

Historically, the capital expense of installing traditional landline technology has meant that only a limited proportion of lower income segments had access to telecommunications. Today however, cellular technology covers ever wider geographic areas and ever higher percentages of the population. In South Africa for example, 97% of the population is covered by cellular

networks. The conditions for the BoP market to be developed are therefore firmly in place, and Psitek's approach to access the BoP was to leverage off the cellular network's expansion.

In order to sell to the BoP, Psitek had to overcome barriers associated with the price and design of the product. For its customers, Psitek's product constitutes a vital, possibly only source of income. The market therefore needs a robust, reliable and high-quality product at affordable prices. Huge growth potential is present across the emerging markets : in Africa alone, there are still 400 million people who have never used a phone. Accessing this market poses a number of challenges.<sup>10</sup>

## 3. Challenges

Psitek faces a number of external challenges in providing solutions that address the needs of the BoP market :

- **Logistics and entry barriers:** Vast distances, poor infrastructure, and state bureaucracy all burden the supply chain and add costs to supplying products and support services to emerging markets.<sup>11</sup> Psitek has also faced difficulties in breaking into markets where the concept of GSM payphone telephony is an unfamiliar concept<sup>12</sup>.
- **Building an attractive business model geared towards the BoP :** Affordable technology and reliability are necessary but not sufficient conditions in order to access the BoP. Appropriate business models need to be designed in order to create sustainable and mutually beneficial relationships. Designing such models, testing them and fine-tuning them across different markets take up precious resources and time.
- **Regulatory environments and taxation issues:** In many countries in which Psitek operates, mobile telephony is strictly regulated and highly taxed as certain governments see the mobile phone industry as an easy source of revenue.<sup>13</sup>

<sup>2</sup> For further reading on the Community Phonestops: RECIPROCITY, Low income does not mean no income: Vodacom. BOP Learning Lab Factsheet, June 2008

<sup>3</sup> FRANCIS JUDGE: MBendi - Africa: Computers and Communications - The boom of the cellular industry in Africa: 15.Dec.2000

<sup>4</sup> Vodacom website: [www.vodacom.co.za](http://www.vodacom.co.za)

<sup>5</sup> EWING Jack, Upwardly Mobile in Africa. Business Week Online, 14 September 2007

<sup>6</sup> LORD Richard, Psitek Strategic sales manager, Interview, 3rd of July 2008

<sup>7</sup> EWING Jack, Upwardly Mobile in Africa. Business Week Online, 14 September 2007: ZAINUDEEN Silva & Ayesha, Teleuse on a Shoestring: Poverty reduction through telecom access at the 'Bottom of the Pyramid', Centre for Poverty Analysis Annual Symposium on Poverty Research in Sri Lanka 6-7 December 2007, Colombo, p2

<sup>8</sup> GSM Association Development Fund: A First Year of ProgressP13 and BAYES, A., VON BRAUN, J. & Akhter, R. (1999) Village pay phones and poverty reduction: Insights from a Grameen Bank initiative in Bangladesh. Information and Communication Technologies and Economic Development. vol.8, ZEF Discussion Papers on Development Policy No. 8. Bonn: Centre for Development Research, ZEF. Bonn, 31 May-1 June 2008

This is a huge impediment on growth and above all, reduces availability of low-cost telecommunication access to a price-sensitive BoP.<sup>14</sup> In some countries, for instance, there are import duties of up to 40% on this type of technology, in addition to excise duties, and VAT on each call made.<sup>15</sup> Others, for example, have still not deregulated mobile communications, and payphones remain a monopoly of the state-owned landline telephone company.<sup>16</sup> This is a huge inhibiting factor to making the phones available to more people and making the business venture profitable for the vendors.

- **Increasing penetration of low-cost handsets and low denomination prepaid airtime:** These two factors together are perhaps the main challenge Psitek is facing. Its niche market is firstly being challenged by the increasing availability of very low-cost mobile phone handsets, giving an individual the possibility to own a handset rather than to use a public payphone. This is compounded by the fact that prepaid airtime is increasingly becoming available at low denomination. This means that not only that people will be able to afford a handset but also have readily available airtime, eliminating to some extent the need to use a payphone. Several studies also seem to confirm that the ownership of a mobile phone handset is a status symbol, especially when it is personalized. A recent study in Asia found that two thirds of mobile phone owners felt that the phone has raised their social status and recognition in the community. The popularity of mobile phones is therefore being driven by both cost and social desirability. It remains to be seen how fast this will affect the viability of supervised payphone services but in the long run this trend will mean that supervised payphone services will have to offer additional added value and adapt their product mix, perhaps by providing the delivery of content via data services.

- **Inflationary pressure on disposable incomes:** With typically two thirds of income within the BoP being spent on food, the small and often irregular income portion left available for communications, among many other necessities, is extremely sensitive to inflationary and other cost pressures. Over the past 18 months, the relentless rise worldwide of oil and other commodity prices has had a knock-on effect in most emerging countries, and the pressure has been particularly harsh on the lower income segments. In this regard, Psitek's competitors are more often to be found in completely unrelated consumer

goods and not necessarily alternative sources of communications.

### 3. Response

Psitek's response to the challenges of the BoP market has been shaped by 18 years of experience. Two flagship products, the Adondo and Jembi GSM payphones, now form the basis of its hardware offering to the BoP, which can be operated in informal environments such as markets or containers. The Adondo is designed to be a 'business in a box', offering voice, fax, internet access, the sale of airtime and other services. The Jembi is similar, but a completely mobile device which can also be used for the resale of voice calls, sms's, and the sale of airtime and other services. It can also be used by individual vendors in taxis, on bicycles, on foot (at sports matches for example), or in markets.

By using the GSM cellular networks, the Jembi and Adondo supervised payphones provide access to affordable communication to underserved areas, reaching any community within mobile phone coverage. In this regard, Psitek offers a prime example of how technology adapted to specific needs can create employment and stimulate economic activity in the lower income segments.

As cellular networks started growing across the developing world, Psitek was in a position to expand in those areas and tap into markets far beyond South Africa. In Kenya, as an example, Psitek's products contributed to the creation of 27,000 jobs and micro-businesses, not to mention those created within the secondary industries which support these initiatives. The profit margins and success of these businesses are determined entirely by local market conditions, but Psitek's own objective is for vendors to generate an income for themselves of at least 100 USD per month. Although in some instances they still inhibit growth, certain regulators in some African countries are becoming increasingly aware of the opportunities presented by telecommunications and data services. In many cases authorities now even provide



Photo Credit Psitek

9 NJIRAINI John, Engineering news online: SA-linked firm wins popularity and success with Kenya payphone service, 25 Aug 2006

10 Interview

11 ANDERSON Jamie, Serving the World's Poor: Innovation at the Base of the Economic Pyramid, European School of Management and Technology: p7001

12 & 13 Interview

14 MUTAVI, Vincent, Psitek Country manager for Kenya, Business daily

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18 FINNIE Graham, LEWIS Chris et al., South African Communications Market Study Prepared for the Department of Communications, South Africa, Market Review and Analysis, 1 December 2003 p27

19 ZAINUDEEN Silva & Ayesha, Teleuse on a Shoestring: Poverty reduction through telecom access at the 'Bottom of the Pyramid', op. cit., p11

incentives for start-up businesses in under-served areas. These incentives come in the form of subsidies for discounted call rates, financial assistance from government and aid agencies to purchase hardware.

Customised technology on its own however, is not sufficient, as businesses have to innovate and respond to market trends to remain sustainable. Over the past few years, the overall trend in most emerging markets has moved towards a more sophisticated product mix: where a few years ago simple voice calls was the main product on offer, the demand for data and content services has surged.

Again, Psitek has recognised this trend and responded to it by developing the technology to provide internet access, fax services, and most crucially financial transfer services such as the payment of utility bills, for example electricity. One example of how Psitek has responded to those new market needs is the introduction of an access to services brand in South Africa called Kazang.

Kazang is an easy-to-use electronic solution to sell prepaid services launched in South Africa in September 2007. One of its main features is its reliance on wireless communication for the electronic delivery of services to the customer. The solution includes the device, technology platform, prepaid services and a marketing start-up kit, which is distributed together with an affordable financial model that helps people build sustainable businesses. While Kazang initially offered electronic airtime recharge, it is now rolling out other prepaid services, such as electricity, short-term insurance and payment services. The selling of airtime is expected to be a significant income generator for the vendors: In South Africa, 90% of mobile phone customers use prepaid airtime, generating sales of around 2.5 billion Rand per month. The aim for Psitek is to enable the Kazang vendors to capture 10% of that market by accessing under-served areas.

As a type of package concept, Kazang also benefits the vendors, who reduce their

reliance on one single product and diversify their offering, becoming one-stop-shops for the selling of a variety of prepaid services. Psitek also provides marketing material to the vendors in order to assist them in advertising the services on offer, as well as technical support.

Through its long experience in under-served markets, Psitek has developed a network of business partners who are experts of the markets they serve.

## Conclusion

Psitek provides an interesting example of a company not just engaging the BoP market as an additional or new source of growth, but actually as its main customer base. It has built up exceptional experience in this segment and its expansion across a wide geographical and cultural variety of markets can be taken as evidence that selling **TO** the BoP can not only be profitable, but serve as a basis for growth and success.

As affordable communication has spread to the global BoP, so have the benefits and conveniences that come with the service. Psitek has developed a basket of products over the last 18 years which have added social and economic value to millions within the BoP, and brought a positive name to the service provider.

The market however is not static, neither in terms of its needs nor in terms of technological advances. As is evident, one of Psitek's main challenges will be to find ways of providing relevant technology enabling it to compete with ever more affordable individual handsets for example. In this regard, the way forward may be for Psitek to become more involved in sponsoring micro-enterprises, retailers and informal businesses who sell telephony and data services as part of a much larger mix of product and services, such as household consumer products, food and beverages, public transport tickets and similar everyday products, bringing socio-economic improvements across the BoP.

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21 Interview

22 GSM Association Development Fund: A First Year of Progress, p14. [www.gsmworld.com/developmentfund](http://www.gsmworld.com/developmentfund)

23, 24 & 25 Interview

26 [www.kazang.co.za](http://www.kazang.co.za)

27 Interview