

Chapter 3

**Providing Internet-Based Opportunities
to Low-Income Mass Markets**

Some two-thirds or more of the world's population subsist on incomes of less than USD 2 per day. One of the best known advocates for targeting them as a mass market is Professor C.K. Prahalad of the University of Michigan's Ross School of Business.¹ In his words:

“...if we stop thinking of the poor as a burden and start recognizing them as value conscious consumers, a whole new world of opportunity will open up”.

Prahalad's main message is that providing affordable goods and services to the poor can be a profitable exercise, as well as a more successful and sustainable approach to poverty relief than aid flows or action by governments and NGOs. This approach terms pricing as “income-appropriate for mass markets” (IAMM).

Aneel Karani, also of the Ross School of Business, is a leading critic of the IAMM approach. Karani says Prahalad overstates the size of the market for low-income users, that a successful strategy would treat the poor as producers rather than consumers, and that governments have a role to play. Karani argues that only by treating the poor as producers will their incomes be raised to levels which alleviate poverty. He further stipulates governments have a role in the creation of private enterprises in labour intensive sectors of the economy through appropriate policies (*e.g.* deregulation, creation or reform of capital markets) and in facilitating the availability of sound infrastructure (*e.g.* transportation) as well as in safeguarding non-economic freedoms.

As in all academic debates positions tend to be elucidated over time, common ground identified and other contributions made in support. In response to his critics, Prahalad increasingly cites the expansion of communication access as a successful example of the competitive marketing services making them increasingly affordable to the poor. At the same time, his detractors seem to generally avoid discussion of developments in the communications sector as a potential area of critical review. Critics of micro-finance, of which there are many in the development community, also tend not to review how it has affected the positive development of communication markets when discussing what they see as the shortcomings of the IAMM approach. This is unfortunate, as there are positive elements in current market developments for the poor as consumers, employees and producers in the communications sector, as well as the creation of a higher level of successful entrepreneurial activity. There is also a growing body of independent research based on the IAMM approach, in the communications sector, which bears this out.

Two organisations who have recently undertaken research on communication markets and low-income consumers are the

Washington-based World Resources Institute (WRI) and the Sri Lankan-based communications research centre LirneAsia.²

The WRI report, released in early 2007, sets out to describe and quantify the four billion low-income consumers which constitute the IAMM. They conclude that “...empirical measures of their aggregate purchasing power and behaviour as consumers suggest significant opportunities for market-based approaches to better meet their needs, increase their productivity and incomes, and empower their entry into the formal economy.” Chapter 3 of the WRI report deals specifically with ICTs and low-income users.

In February 2007, LirneAsia reported the results of their study of telephone users with incomes of less than USD 2 per day across five countries: India, Pakistan, Sri Lanka, Philippines and Thailand. Their findings present the most comprehensive picture yet of how people on low incomes use communications services and their motivations for doing so.

Together with a growing body of other research, these reports begin to build a greater understanding of the benefits of greater access for the users with low incomes. This includes a greater understanding of the key policy challenges and solutions for extending the benefits of greater access, including to the Internet, for the next several billion users.

Creating opportunities for the poor as producers and employees

The development of telecommunication markets in low-income regions and communities has brought forth a growing array of employment and micro-entrepreneurial opportunities. In Nigeria, the NCC says that 10 000 people are directly employed by mobile operators. They estimate, however, that a further one million employment opportunities have been created by the introduction of competitive wireless services. These range from hawkers who recharge mobile cards to resellers who have become known as “umbrella people”. In Nigeria the entry costs for setting up a small business reselling mobile services are low – a table, an umbrella for shade and a street corner.

One counter trend is that mobile companies in some markets are selling credits for service in lower units of denomination. In countries where this is occurring it can potentially limit the market for resale. Notwithstanding this development there are a growing number of countries that have created micro-entrepreneurial opportunities by opening their markets.

The reported direct and indirect employment increase in Pakistan, following the opening of the communications market, has been similarly impressive, with some 80 000 jobs created directly and 500 000 jobs created

indirectly. In India, one study found 3.6 million jobs were connected to the mobile services industry made up of 171 000 direct employees and 912 000 in support services. The total figure included an estimate of 720 000 jobs created through indirect expenditure and 1.8 million generated across the rest of the economy as a result of mobile services expenditure.

In Kenya, reselling telephone service has provided opportunities for the disabled. Micro-entrepreneurs have modified wheel chairs, using them as platforms for payphones, from which they provide a nomadic telephone service at fixed network rates. A two-minute video clip on YouTube, showing an example of this Kenyan development, has attracted attention among the development community including the World Bank. Improved communications also offers opportunities for higher paid jobs. Thomas Friedman, the columnist for *The New York Times*, has highlighted the case of KenCall. The company is located in an abandoned avocado processing plant, and it is the largest of Kenya's growing number of call centres with annual revenues of USD 3.5 million after three years of operation. KenCall's 300 employees can earn in a month the average yearly income of half Kenya's population (USD 350). The employees also get health care and free transportation.

Perhaps the best known story of communication access expansion through the empowerment of the low-income users, in underserved rural areas, comes from Bangladesh. In 1997 the Grameen Bank began to provide small loans, in the amount of USD 133 each, for women to become a village phone operator (VPO) as part of the Grameen Phone network. By August 2005 there were some 165 000 VPOs with 50% of villages covered. Numerous studies of the Grameen scheme report that it has provided business opportunities for women and elevated their status in village life as well as providing a profitable telephone service in regions where none previously existed.

In Uganda, MTN has partnered with the Grameen Foundation and local micro finance institutions to introduce a similar scheme to the one in Bangladesh. Some 2000 local entrepreneurs have been given USD 230, a car battery or solar panel, a mobile phone and a fixed line dedicated SIM card. The agents pre-purchase airtime and sell it to other village residents. As in Bangladesh, the local entrepreneurs in Uganda are mostly women. Significantly as their service has prospered some village operators have introduced a payphone service which frees up their own time from continuously staffing the service.

In South Africa, on a larger scale, the mobile operator Vodacom sells resale franchises for USD 3 950. The price includes the provision of a modified shipping container (which acts as a shop) and five lines for

customers to make calls at rates which are about one third of standard cell phone prices. Some of the independent shop owners also provide fax and data services. Vodacom says a typical store may serve 100 hours per month per line generating USD 3 350 of revenue of which the local entrepreneur retains USD 1 190. In 2003 the programme was reported to be profitable with some 1 800 entrepreneurs operating more than 4 400 phone shops.

In the Philippines, Smart Communications, a leading mobile operator has pioneered the transferral of pre-paid airtime between users via short message service (SMS). As well as enabling payment for small transactions, thereby providing a payment service for people without bank accounts, the service enables resellers to transfer airtime to their customers with a 15% commission. Smart's reseller network provides micro-entrepreneurial opportunity for 800 000 resellers. Rival mobile operator Globe Telecom has a 700 000 strong reseller network where agents can earn commission on services such as sending and receiving payments using mobile phones.

Innovation, creativity, and investment in developing country markets

One of the most interesting developments in the shift to demand-driven development in markets typified by consumers with very low incomes has been in the rise of innovative business models catering to local requirements. The experience of the South African owned MTN, while operating in Uganda, provides a good example. By MTN's own account, when it entered the Ugandan market, it dropped the developed country model which it felt had an elitist image and was characterised by inappropriate pricing structures. This included not differentiating between fixed and mobile pricing, not differentiating between pre-paid and post-paid pricing and allowing small top-up denominations for pre-paid service.

Perhaps the most remarkable development in African communication markets has been "borderless roaming". First pioneered by Celtel a growing number of wireless providers (*e.g.* MTN, Uganda Telecom) now offer their customers the ability to roam internationally in their region without additional charges. In other words users can make or receive calls for the same prices when visiting other countries as when they are in their home countries. This innovation can be contrasted to OECD countries where such options, for the most part, do not exist even when the same provider operates in neighbouring countries.

In competitive markets, serving low-income users, operators are increasingly conscious of the minimum cost of ownership (MCO). The MCO for a pre-paid card user is the minimum cost of "top-up" divided by the period in which this can be exercised. For example, if a card can be

purchased for USD 5 and the credit has a duration of three months, the MCO is USD 1.67 per month. Mobile operators in competitive markets have learned to respond to user demands with new services, and add value to the MCO. For example users in the lowest income groups in many countries find ways to minimise costs like ‘beeping’ other users, such as an employer, to call them back. With this in mind, Kenya’s Safaricom introduced a service called “Flashback 130” (“Please call me back, thank you”) for its customers. In Ghana, Onetouch enables pre-paid users to send a “call me back message” even when they have no credit existing on their service.

New entrants in markets typified by low incomes have also become very adept at introducing innovative services which provide solutions for their customers. In the Philippines, Smart Communications was the first mobile operator in the world to introduce international cash remittances by text or SMS service. By way of background, Filipinos working offshore remitted some USD 8 billion in 2004 and by some estimates 44% of households have a family member abroad. Some 98% of the Filipino population is covered by mobile networks and more than 20 million inhabitants have mobile phones. The service, called “Smart Padala”, enables users to remit cash to electronic wallets on the mobile phones of beneficiaries. The beneficiaries can then decide whether to use the funds for electronic payments or withdraw cash from participating cash points or merchants (*e.g.* ranging from ATMs through to McDonald’s Restaurants and 7-Eleven Stores). Not only is the service more secure than traditional remittance systems it is significantly less expensive. Whereas a USD 5 charge might apply to a traditional remittance on a USD 100 transfer, the cost of a Padala can be as low as 1%. Offshore workers can also pay bills directly in the Philippines using the system.

Economies typified by low incomes have also provided fertile grounds for new mobile providers. By way of example, leading operators headquartered in Africa with continental and international operations include:

- The South African based MTN, which has operations in Afghanistan, Benin, Cameroon, Congo Brazzaville, Côte d’Ivoire, Cyprus, Ghana, Guinea, Guinea Bissau, Liberia, Nigeria, Rwanda, South Africa, Sudan, Swaziland, Syria, Uganda, Yemen and Zambia.³ In 2006 MTN’s subscribers were up 73% to 40 million with revenues of USD 7.1 billion. The Group employed 8 360 employees as at December 2005.
- Egypt based Orascom Telecom operates GSM networks in Algeria, Pakistan, Egypt, Tunisia, Iraq, Bangladesh, and Zimbabwe. Orascom Telecom had over 50 million subscribers as at

December 2006. Orascom Telecom owns 19.3% of Hutchison Telecommunications International Limited, a leading telecommunication services provider operating in eight countries (e.g. India, Indonesia and Vietnam). In 2005 the Group had revenues of more than USD 3.2 billion. In the third quarter of 2006 the Group had quarterly capital expenditures of over USD 1.3 billion and had 15 000 employees.

- The Econet Wireless Group is a diversified global telecommunications group operating in mobile cellular telephony, fixed lined networks, satellite services and Internet operations. The Group is registered in Botswana and has operations in Botswana, Lesotho, Nigeria and Zimbabwe. The group is newly licensed to provide service in Kenya and New Zealand. The privately owned group has interests in mobile companies with more than 5 million subscribers and more than 1 400 employees.
- In April 2007, Telkom South Africa acquired a 75% share of Multi-links Telecommunications Limited for USD 280 million. Multi-links is a Nigerian Private Telecommunications Operator with a Unified Access License providing fixed, mobile, data, long distance and international telecommunications services throughout Nigeria. Telkom has also invested in Africa Online, the largest Pan-African ISP in sub-Saharan Africa, which offers a wide range of services in Cote d'Ivoire, Ghana, Kenya, Namibia, Swaziland, Tanzania, Uganda and Zimbabwe. In a number of these countries this includes broadband Internet access delivered over various wireless technologies. Telkom's mobile subsidiary Vodacom, jointly owned with Vodafone, has operations in South Africa, Tanzania, Congo and Lesotho. In 2006 Telkom had revenues of over USD 3.4 billion.

Markets in Africa, when open to foreign investment, have also been increasingly attracting investment from outside the OECD area. The World Bank has highlighted the increasing amount of South-South investment and more recent indications are that this is increasing. In Africa, for example, Tata owned VNSL, a leading Indian and international communications carrier, is active. The company successfully led the winning bid for South Africa's second national telecommunications license in 2005 and planned to invest USD 230 million between then and 2008. In Uganda, the Saudi Arabian owned HiTS Telecom plans to invest USD 343 million after being awarded a mobile license in March 2007. Elsewhere, in Africa, HiTs plans to set up eight operators by 2009 and another two in 2010, offering a range of mobile and fixed-line voice, 3G, WiMax, data, and international gateway services with an investment value of USD 1 billion. Abu Dhabi-based Warid

Telecom plans to invest a further USD 200 million to establish their operations in Uganda.

Perhaps the largest foreign investor in Africa, from outside the OECD area, is the Kuwaiti based MTC. In 2005 MTC acquired Celtel for USD 3.36 billion. Towards the close of 2006 Celtel operated in 14 countries serving more than 15 million customers. The countries in which Celtel offers telecommunications services are: Burkina Faso, Chad, Democratic Republic of the Congo, Republic of the Congo, Gabon, Kenya, Madagascar, Malawi, Niger, Nigeria, Sierra Leone, Tanzania, Uganda and Zambia.

To put into perspective what opening a market can achieve over time, the regulator estimates that USD 8.1 billion was invested in Nigeria between December 1999 and June 2006. In Pakistan the telecommunications sector attracted USD 9 billion foreign investment between 2004 and 2007 and authorities expect to get another USD 4 billion in the next three to four years.

An important point underlying all this investment is that the growing Pan-African and South Asian integration provides an incentive for greater regional and pan-continental connectivity. In previous times independent monopolies had few incentives to establish direct communications with neighbours when both parties were seeking to extract monopoly rents. They preferred to send traffic to lower cost exchange points even if they were in Europe or North America. If the restrictions on the provision of international gateways services are lifted, pan-African companies will develop far better local and regional connectivity. The major obstacles currently standing in their way, are regulatory restrictions on the provision and operation of international facilities.

Economic and social opportunities for low-income users as consumers

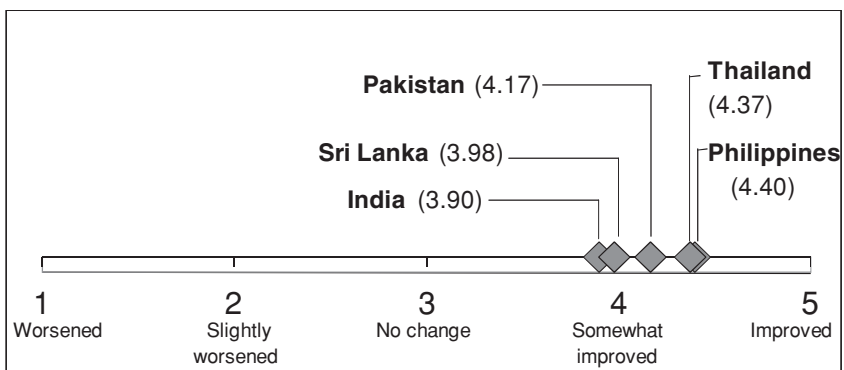
It is increasingly clear that firms and micro-entrepreneurs can both benefit in developing country markets. At the same time, access to communications is a powerful enabling tool. Communication access providers in markets typified by low-income users increasingly understand this dynamic. In March 2007, S.D. Saxena, Director of Finance at India's BSNL stated:

“People are also talking about digital divide. In India, the situation is reverse – poor people are using the state of art technology: 7-8% of BSNL’s customers are businesspersons, 8-10% are among the youth, but 75% are using the phone for survival in a competitive environment. If you give technology to people, they themselves find out how to use it effectively.”

The LirneAsia research is perhaps the most comprehensive available today to understand the use of telephone services by users with incomes of less than USD 2 per day across five countries – India, Pakistan, Philippines, Sri Lanka, and Thailand. Some of the key findings showed that almost everyone in competitive markets can afford to use a phone, but not necessarily own one. While affordability is still a barrier for many people, the addressable market is very large. LirneAsia projects that 140 million people, with incomes of less than USD 2 per day in the five countries studied, will purchase a phone before the end of 2008. Currently, they have determined, around 60% of people with low incomes, in all five countries, could get to a phone in less than five minutes but, as might be expected, differences were greater in rural areas.

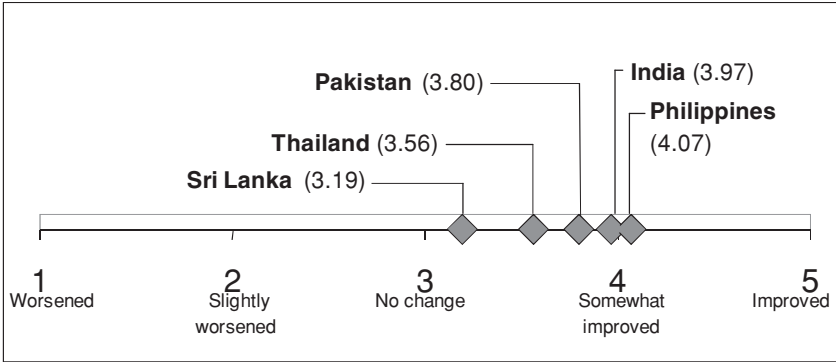
The LirneAsia research also indicates the key social and economic benefits the poor perceive in owning a phone. Phone owners perceive first an increased efficiency in their daily activities (Figure 3.1). Second, they perceive economic benefit in their ability to earn or save (Figure 3.2). That being said, the primary perceived benefit is a greater sense of security and ability to act in an emergency (Figure 3.3). In terms of economic benefits, access to phones is valued most highly by Indians and Filipinos. This includes the ability to avoid large transaction costs such as substitution of communication for travel. In India this is particularly the case for the agriculture and services sectors. Overall, access to phones is perceived as slightly higher value propositions in the Philippines and Thailand than in India, Pakistan and Sri Lanka. A question worth asking is the degree to which this reflects the externalities of higher telephone penetration rates in Thailand and the Philippines compared to Pakistan, Sri Lanka and India.

Figure 3.1. **Perceived benefits in using a telephone: efficiency of daily activities**



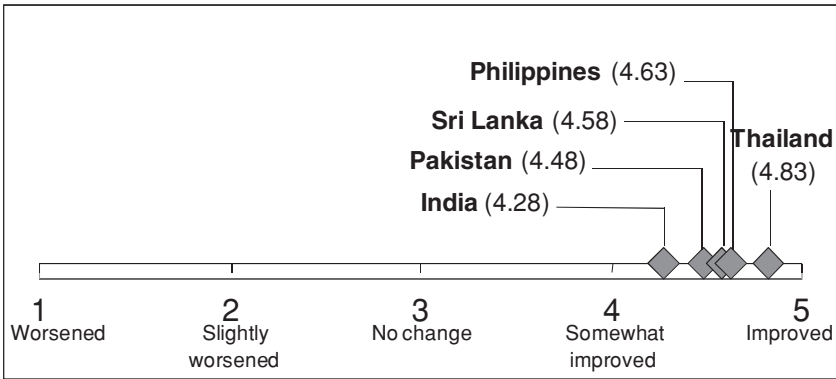
Source: de Silva, H. and A. Zainudeen (2007), "Teleuse on a Shoestring," LIRNEasia Media Workshop, Singapore. 28 February 2007.

Figure 3.2. Perceived benefits in using a telephone: ability to earn or save



Source: de Silva, H. and A. Zainudeen (2007), “Teleuse on a Shoestring,” LIRNEasia Media Workshop, Singapore. 28 February 2007.

Figure 3.3. Perceived benefits in using a telephone: ability to act in an emergency



Source: de Silva, H. and A. Zainudeen (2007), “Teleuse on a Shoestring,” LIRNEasia Media Workshop, Singapore. 28 February 2007.

There is a growing body of other research on the benefits of improved communications access for low-income users. Access provides opportunities for economic advancement and social development, as for example in the following cases:

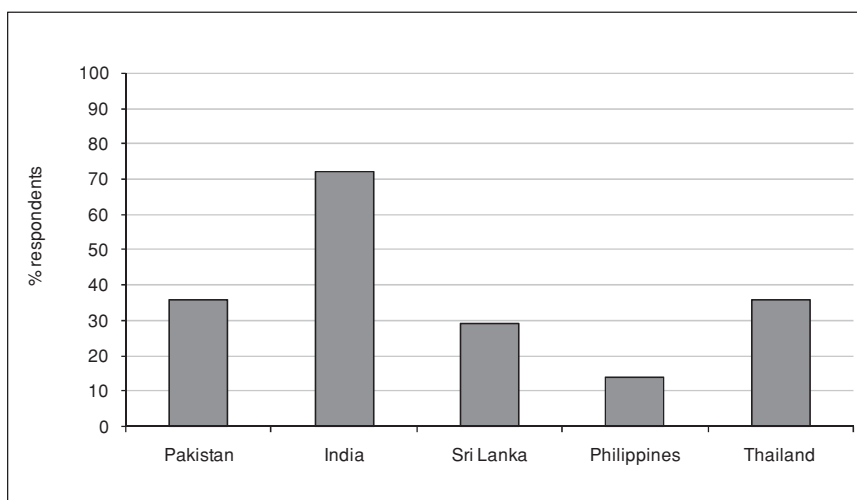
- Micro-entrepreneurs in Rwanda have used mobile phones to start and run small businesses ranging from bakeries to hair dressing.

- Banking services are provided over mobile phones to people who previously had no bank accounts in countries such as South Africa. This enables the secure transfer and storage of funds in environments where migrant workers sometimes have to pay bribes to pass through checkpoints.
- In the Philippines, mobile providers are connecting schools in remote locations with connections to the Internet combined with local Wi-Fi access.
- In Kenya, the United States Centers for Disease Control and Kenya's Ministry of Health are using PDAs (personal digital assistants) and cell phones to improve Kenya's capacity to detect, prevent and control disease. This includes monitoring diseases in slum communities.
- In India the n-Logue program provides a range of information via Internet kiosks to small villages including agriculture information for farmers (*e.g.* weather, advice on seeds, fertilisers and so forth) and telemedicine (*e.g.* eye-care consultations via Internet video).

Low-income users can benefit from greater access to communication services and, therefore, have an incentive to join networks that serve their needs in affordable and useful ways. The question that is increasingly raised in international fora, such as the Internet Governance Forum, is the extent to which the Internet will play a major role for the poor in their economic and social development. Sometimes this is phrased in the form of the question: "How can the next several billion users benefit from the Internet?"

Before turning to this question, it is worth reporting one additional finding from the LirneAsia study. When the question was posed to people in low-income groups as to whether or not they knew about the Internet, a significant proportion had no knowledge (Figure 3.4). More than two-thirds of those questioned in India and roughly one-third in Pakistan, Thailand and Sri Lanka fall into that category. The Philippines was the major exception with just 14% having no knowledge of the Internet. At the same time, a high proportion of these people expressed the desire to own a phone.

Figure 3.4. **Percentage of people who had not heard of the Internet in the LirneAsia Survey**



Source: Zainudeen, A. (2007), “The Next Billion Customers”, LirneAsia.

In the conclusion to their study of the size of the communications market in developing countries, the WRI pose the question:

“Will phones become the Internet platform for [low income] households and rural communities? Several factors suggest they will, including the business strategies adopted by some major mobile phone manufacturers and information technology companies.”

To the manufacturers and IT companies can be added service providers which, in competitive markets, will seek to offer relevant and affordable propositions to their customers. The strategies which emerge may be different from those in developed countries; experience to date would suggest it would be surprising for them to be the same. That being said, developing countries can harness the same competitive forces, evident in developed countries, which are bringing forth a convergence of fixed and wireless services, including those based on the Internet Protocol. Indeed, many are already doing so for the development of Internet access in their countries.

Notes

1. Coimbatore Krishnarao Prahalad is the Paul and Ruth McCracken Distinguished University Professor of Corporate Strategy at the University of Michigan Ross School of Business.
2. By way of disclaimer, the author is on the advisory board of LirneAsia.
3. Footnote by Turkey: The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of United Nations, Turkey shall preserve its position concerning the “Cyprus issue”. Footnote by all the European Union Member States of the OECD and the European Commission: The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.

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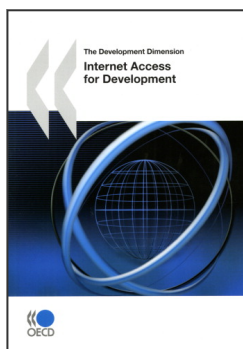
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