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Bottom of the Pyramid: Defining Flexibility in Business Excellence

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Abstract

More than 4 Billion of the world's population earns less than 5 \$ a day and about a Billion of them earns less than 1 \$ per day. Since long, reaching out to this segment of people is considered to a domain of a government or Non Government Organizations (NGOs). Private sector has not been an active participant at BOP (Bottom of the Pyramid) citing uncertain cash flow, uncertain demand, undeveloped business ecosystems, sales and distribution challenges and also disaggregated providers as some of the major hurdles. Organisations and initiatives such as BOP Learning Lab(Argentina), Casas Bahia, Cemex Patrimonio Hoy, Global Alliance for Improved Nutrition (GAIN), Gilead Sciences, M-Pesa, Novartis("Arogya Parivar" Healthy family), Hollard Group (life insurance), Life spring Hospitals, Voxiva etc. have proved that BOP strategy is indeed profitable and it is not just a part of philanthropy or social service act.

BOP is essential to grow for companies as the higher income segment is getting saturated. The authors taking cue from successful business models of BOP initiatives will demonstrate the successful penetrating strategies to enter and profit from BOP market which is currently valued at \$13 trillion. Authors are also integrating rural innovation commercialization concept in their research to show BOP on the producer side. The authors seek to establish that BOP is defining business excellence and flexibility through private sector participation, innovation and collaboration.

Keywords: *Bottom of the Pyramid, Business Sustainability, Collaboration, Disruptive, Frugal Innovation, Innovation, Segmentation, Strategic Flexibility,*

Introduction

Bottom of the pyramid (BOP) is the term given to segment of world's population those who earn less than 2000 USD per year based on purchasing power parity (PPP) index. The Harvard Business Review article, *Serving the world's poor, Profitably* by C.K. Prahalad and Allen Hammond describes the interventions and ventures of few Multi National Companies(MNCs) in serving the world's poor and making profits out of their venture. This article was perhaps the starting point when the world took note of BOP sector.

The opportunities in the BOP sector are immense, around 4 Billion of the world's population can be constituted as BOP as the segmentation. But are the opportunities actually profitable

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for MNCs to be interested in BOP? Why MNCs should be venturing into BOP market? Should it be just for a social cause or is there a deeper business sense? Through our findings, the authors have tried to answer these questions. A quick look at the BOP segment will give us a glance across the trends in the segment.

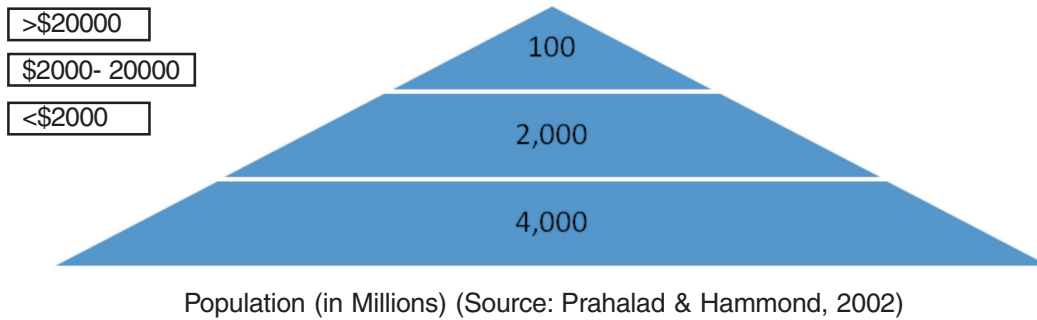


Figure 1: World's Population Based on Income

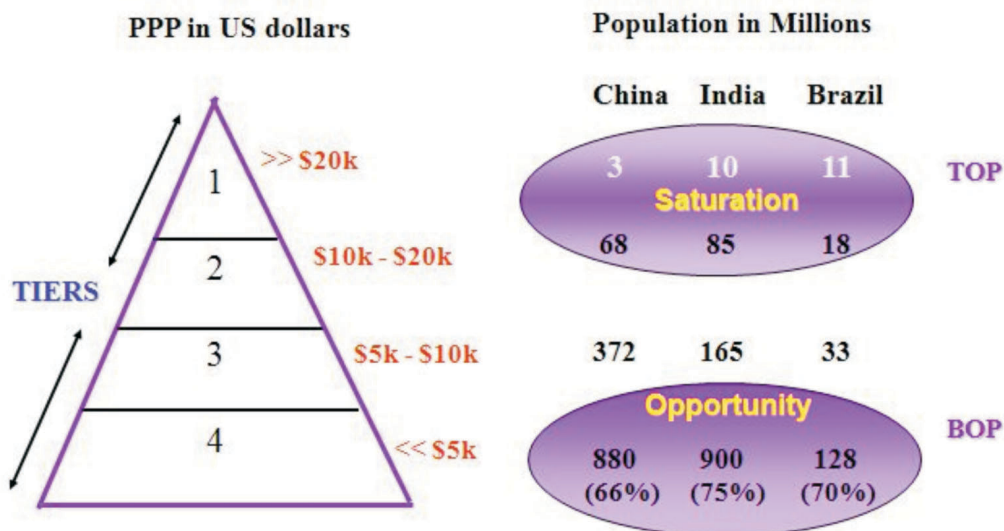


Figure 2: Population Segmentation in China, India and Brazil

As we can infer from Figure 2, the TOP (Top of the Pyramid) where primarily most of the customer base of MNCs are located is getting saturated due to competition as well as due to companies nearing the maximum customer reach. The untapped market, falling in the BOP segment appears to be the only solace where companies can look to expand. On an average, about 70% of the population in China, India and Brazil fall into BOP population. The population estimate states that by 2012, 1300 largest cities of the world will accommodate around 1.5 to 2 billion of world's population, out of which half of them would be belonging to BOP. So why majority of the companies are still not focussing on this sector? The authors will also try to accommodate an appropriate response in the paper.

Some of the assumptions and difficulties that companies and private sector faces while reaching out to BOP customers have been the following:

Assumptions (Prahalad & Allen, 2002):



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- i. The poor can't be the target customers as it is not possible to compete profitably.
- ii. The poor can't use the products suited for developed markets and don't appreciate new technology.
- iii. The managers and initiators are not excited about charity and humanitarian aspects and are not willing to work or put in efforts for the BOP market.
- iv. BOP markets are not suitable for long term viability of the business.
- v. It is best if BOP development is left to NGO's (Non Government Organizations) and Government.

Difficulties faced by companies in entering BOP market

- i. Distribution challenges (Poor infrastructure, lack of communication tools, lack of skills, illiteracy etc.)
- ii. Uncertain cash flow
- iii. Undeveloped or underdeveloped business ecosystems
- iv. Disaggregated providers

The above mentioned assumptions and difficulties are some of the major hurdles hampering the prospects of companies entering into BOP segment.

Hence, can we assume that BOP market is not profitable? Can we overcome the hurdles that BOP market? How can we make BOP segment attractive to MNCs and other companies? Authors will cover the answers to these questions in subsequent explanations.

Research Questions

Authors will try to answer the following questions via their findings

1. Is BOP market really profitable? If not, how it can be made profitable?
2. Can BOP population act as an engine of innovation?
3. How disruptive and frugal innovations help the BOP market?

Is BOP Market Really Profitable? If not, how it can be made Profitable?

There has been a lot written about the BOP segment and how it brings profits or value to an organization. But does it really happen in practice? What are the main deterrents that make this segment unattractive? Let's analyze some of the widely acclaimed success stories of BOP market so far.

(i) Casas Bahia: The Giant Brazilian Company has managed to sell top electronics brand at less prices, but whether it is really for the BOP customers is doubtful. The average monthly income of a Casas Bahia customer is about 200 \$ per month, which means it does not cater to BOP segment, as per Prahalad definition.

(ii) Annapurna Iodized salt: the penetration of Annapurna salt, developed by Hindustan Lever Limited (HLL), is priced at Rs. 12/Kg. The pricing of Annapurna salt is very close to market leader Tata salt and hence the participation of rural and BOP population is very less in this initiative. In many parts of india, regional players sell iodized salts in the range of Rs. 2-5/Kg. Hence at a price premium of about 200 % or more, many people will not buy Annapurna salt. Hence it fails here as an example catering to BOP proposition.

(iii) Aravind Eye Hospital: The Aravind Eye Hospital (AEH) is an example of how achievements can be overstated. It is claimed that the cataract operation priced has been reduced by AEH to

\$25-300 compared to \$2,500-3000 in USA. The cost comparison should be done at PPP rates and not at financial exchange rates. There are various factors like high labour costs, third party insurance etc. in United States, which has led to escalating costs for cataract operations. The other private hospitals in India charge about \$350 per cataract operation (Puri 2003). This is the same amount which the AEH charges from its wealthy patients. This illustration is not meant to take the credit away from the AEH, but it just proves that BOP factor and cost reductions are overstated in this particular example. AEH is no doubt an innovative organization with efficiency achieved through economy of scale and process design improvements.

The cases mentioned above proves that sometimes the achievement are glorified but the truth may be that the companies may not cater to BOP market at all or the profit figures can be misleading.

Then, how can we make BOP segment profitable and attractive to companies? There are various answers to these questions. The best opportunity for selling the products to BOP segment exists when there is a great price reduction by the firms by ensuring innovation which does not let quality-price trade off to suffer and the product is acceptable to the customer. The other way out is to consider the BOP or poor people as producers. The markets need to be more efficient so that the BOP people can get maximum or fair price for their products. The companies can also engage with the customers in the sense that they provide education, training and finally employment by upgrading their skill sets and productivity. This will be a great service to the BOP segment and a mutually beneficial relationship for the company as well the people. Then only the real benefit will reach to the deserving BOP population.

The authors will elaborate on the above mentioned suggestions in the following discussions which will describe BOP as consumers as well as Producers. The innovation aspect via disruptive and frugal innovation will be discussed in the later topic.

BOP as a Consumer: Case Studies

(i) DesiCrew – Rural BPO

DesiCrew Solutions is a rural BPO which provides outsourcing solutions to clients and humongous employment opportunities to people living in small towns in rural areas. It was founded by Saloni Malhotra along with professor Jhunjhunwala in January, 2005. Desicrew began as a commercial entity in early 2007. Desicrew follow the Reverse Migration Model. Saloni's vision was that of a technology savvy rural India and young people who would not have to leave their houses in search for jobs. She visualized three dots on a chart paper; rural, technology and business. The only way to connect these dots was to setup a BPO in the rural markets as per her opinion. The objective of the Desicrew is low cost, high quality, customer-centric approach, and socially responsible business process outsourcing that provides employment of educated people of rural & semi-urban India.



Figure 3: Rural BPO Process

(ii) The Tata Group- The Nano & SwatchWater Purifier

The Nano is a classic example of a disruptive innovation produced with the BOP in mind, with affordability being a core element in its design, development and business model. For Tata group to realize this, they had to re-engineer the process of designing, manufacturing and

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distributing a car to meet the BOP market. It also redefined the supplier strategy employed by opting to outsource a huge portion of the car's parts and to engage lesser number of vendors to reduce the effect of transaction costs (Wentz 2010). With this approach, Tata has been able to unfold a strategy that brings a car that would have otherwise remained a luxurious product for the TOP and the middle income earners only, to the BOP. This logically makes Nano an affordable and choice product for millions of first time car buyers in the BOP.

Their recent product to be launched was the Swatch, an eco-friendly potable water supply system. Swatch (which means 'clean' in Hindi) is based on a concept developed by the TCS Innovation Labs – the Tata Research Development and Design Centre (TRDDC). Amongst a number of benefits of Tata Swatch, the main fact here is that it needs no electricity, no boiling and no running water. India has approximately 400 million people who are not having a supply of electricity and running water. Moreover the Swatch is cheaper than (half the price of Unilever) the nearest competitor in the low cost water filter market.

Table 1: Description of BOP as Consumer

Company/Organization	Business Domain/	Product /Service Partners/ Type	Market Segment
Grameen Bank, Bangladesh	Community development Bank	Microcredit	Rural people of Bangladesh
M Pesa	IBM , Vodafone Large MNC	M pesa- mobile money transfer service	Kenya
Cavin Care	MNC	Sachet	India
Tata Ace	Automobile	Tata Ace- Mini truck	Cargo transportation in India
Fanmilk	Large Manufacturing company	Milk , Ice cream yoghurt	Nigeria, Ghana
PuR Water Purifier	P&G, large FMCG company	water Purifier	Kenya
Jaipur Rugs	Small and Micro business	handmade carpet	Underprivileged communities in India
OLPC (One laptop per child)	Non-profit organization	laptop	isolated and poor children
SABMiller brewing company	Large MNC	Beer	Africa
Dairy Information System Kiosk (DISK) project	Amul	Dairy Products	Farmers
Paralife	Paralife	Microfinance	Mexico
HUSK power systems	Small and Micro Business	Electricity	Villages in Bihar
LifeSpring Hospitals	Healthcare Services	Cheaper Delivery and Medical services for women	Women and children
Project Shakti company	HUL , Large FMCG	Creating livelihood for the rural women	Small villages having population less than 2000
e-choupal	ITC, Large MNC	offer farmers up-to-date marketing and agricultural information	Farmers in India

(iii) Godrej and Boyce - The Chotukool

Refrigerator was the necessity of the urban people but it was luxurious product for the rural few years back. But scenario has changed with the launch of Godrej's Chotu Kool. The product does not require electricity. The Godrej & Boyce co-created this product with the support of woman of Osmanabad, a small town in Maharashtra. The salesmen belong to the self help group run by Swayam Shikshan Prayog, an NGO microfinance institution (MFI). There are approximately 101 woman in 77 villages across India.

(iv) ToughStuff – Affordable Alternative Power

Katie Fehrenbacher thought that whether the solar technology will manage to leapfrog the need for an infrastructural grid. And he got the answer. ToughStuff's is company whose mission is to bring affordable energy products to people lacking access to electricity. Thus the company is trying to improve the health of the rural people and help the rural people to increase their living standards. ToughStuff has developed a solar powered energy device which caters to the three needs of living off-grid – lighting, mobile phones and radios. This devices are available for sale in Kenya, Madagaskar and other Africa regions. This is how solar technology can be harnessed to fulfil the basic needs.

Apart from these the authors have analyzed following BOP business models, considering BOP as the viable consumer for them

Recommendations on attracting BOP customers as consumers

Forgoing analysis and evaluation of various business models leads to the strategies that the MNC's should follow to achieve the big consumer base.

- i. The product and services offered by the current business model are concentrated on the two domains. First one is the basic needs of the rural people i.e. food, health and education. Second one is reengineering or innovative products. The MNC's should try to blend both of these domains to create the disruptively innovative basic necessity for the BOP. Extensive market research will be a helpful tool to gauge the need at the BOP. Desicrew is the best example of the services offered to BOP.
- ii. The infrequent nature of the occurrence of disruptive innovations makes it difficult for companies to have a regular process of handling them (Bower & Christensen, 1995). The important aspect here is that the product or services should reach to the needy people. Thus Distribution becomes the second most critical aspect of the strategy. The complete supply chain should be built from the scratch by keeping in mind the BOP. Nokia's major success in the vast hinterlands of rural China, where there is potholed development and infrastructure, can also be accredited to extraordinary distribution network.
- iii. The market saturation is well known phenomenon. If market is mature or over-served, the company may be at risk for disruption. Thus once the product is reached to the build and reaches to the desired market it is become important to create the demand for the product once initial launch has been done. The total market approach of social marketing and creating mass awareness will be the next step to be followed. Communication must reverberate with the target's value system and worldview.
- iv. Business sustainability is the next important paradigm in this process. It will be possible by maintaining the dignity of the people. The whole offering from the companies always try to hinge upon the understanding and maintaining the gravity of the poor people. The Sammaan Foundation ("sammaan" means dignity) is one such example of bringing prosperity to the downtrodden by adding some creative innovation. It is founded by Irfan Alam, a 27-year-old

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from the state of Bihar, India. His idea is to standardize the working of all Rickshaw pullers by assembling them under one roof. He thought of modernizing the cycle rickshaw pulling sector which contributes 30% in urban transport with small but creative changes. This make the rickshaw pullers to drive and increase their income through outdoor advertising, but also through additional services such as the sale of bottled water, juices, mobile recharge, courier collection, and bills collections. The Sammaan Foundation is one of the 30 Indian enterprises shortlisted in a competition to find the countries hottest start up.

Above all the simple bottom line here is that Disruptive innovation is not the key of success alone because it is not for everyone or every other business. It is one of the critical success factors for the Private entities who are trying to venture into the BOP market. Those who are pursuing innovation must have the element of sustainability to improve on the performance curve. The implicit mandate for the companies is that their product or services must fulfil the unmet need and improve the living standard of the people at BOP. This is design challenge for everyone.

BOP as Producers: Case studies

Here the BOP population acts as a producer and their products/services are utilized to cater to the needs of the general population. There are few glaring examples across geographies. Authors shall discuss few examples to stress upon the importance of having BOP as producers.

- (i) Gujarat Cooperative Milk Marketing Federation (GCMMF): Mr. Tribhuvandas Kishibhai Patel led this milk movement and he hired Verghese Kourien as the Manager. The Kaira District Cooperative Milk Producers Union Limited (KCMPUL) was registered in 1946 and AMUL was registered as a brand in 1955. The success model of Amul was replicated throughout the country and in 1974, The Gujarat Cooperative Milk Marketing Federation (GCMMF) was founded to provide an overall organizational support to the milk cooperatives. Amul daily collects 6.5 million liters of milk from about 2.6 million farmers and converts it into value-added milk products. Procurement, Processing and Marketing of Milk and Milk products were carried out with high professionalism and this has resulted in bringing about the white revolution in our country. AMUL is still going strong as a brand and the involvement of all the farmers and native people have ensured a fair price for milk and an excellent distribution system has been incorporated. (Neharika Vohra and Deepti Bhatnagar, 2011)
- (ii) Shri Mahila Griha Udyog Lijjat Papad: This is an organization which manufactures papad, detergents, wheat flours and spices. This initiative was started in Mumbai in 1959, by group of women. It has now expanded to 67 branches in different parts of India. More than 40,000 women are now part of this initiative. The business model is based on collective ownership and is run by member sisters. The membership is open to any woman who has a faith in its business model. Every morning, kneaded dough is distributed among the women. The women then make and return dried papads in one or two days. The total sales of the organization exceed 3 billion rupees. This initiative has improved the stature of women in Indian society, by increasing their living standards and having economic independence via dignified labour. (Ranganathan, 2003)

Few other illustrative examples of BOP as producers are mentioned in the below table

Table 2: BOP as Producers (Source: Ted London *et al*, 2010)

Name	Country	Industry	Product	Description
Honey Care Africa	Kenya, Tanzania	Agriculture	Agriculture	Private enterprise that promotes small-scale beekeeping and high quality honey production as both a profitable business and as an income generating opportunity for low-income rural households.
Tiviski Dairy	Mauritania	Agriculture	Dairy	Africa's first camel milk dairy, which also now processes cow and goat milk mostly for domestic consumption. Tiviski sources all of its milk from semi-nomadic subsistence herders, enabling them to earn incomes from their livestock. The availability of fresh camel milk and other milk products has partially replaced products imported from Europe.
Gone Rural	Swaziland	Swaziland Arts/crafts	Handicrafts	Provides opportunity to rural women by providing training and skills development and creating sustainable jobs in craft production.
CocoTech	Philippines	Agriculture	Coconut husks	A privately-held enterprise that produces geo-textiles from waste coconut husks. It pioneered the application of bio engineering using coco fiber nets (coconets) in slope protection, shoreline rehabilitation, and erosion control in the Philippines. The company grew into a medium-sized enterprise with more than 6000 families involved in the manufacturing of products.
Huatai Paper	China	Agriculture	Wood pulp	Huatai Paper Co., the biggest newsprint manufacturer in China, launched a new strategy that they termed the "Forest-Pulp-Paper Integration," which would substitute wood-pulp for straw-pulp by mobilizing farmers to plant fast growing trees. It was designed to increase farmer income, supply Huatai with sufficient domestic timber resources for its growing production scale and hedge against expensive and volatile import timber.
Dominion Traders	Pakistan	Arts/crafts	Handicrafts	Works with underprivileged artisans who make stone and shesham wood crafts in the city of Karachi.
CONASE/ Solar Corporacion	Peru	Agriculture	Oats	Provides technical assistance to farmers to improve their agricultural practices for oat production, as well as offering them an alternative to traditional and less profitable crops like wheat.

Recommendations on attracting BOP customers as consumers

- i) Providing the right environment is essential for having BOP population as partners. The right environment means providing requisite skill set, training and infrastructure.
- ii) The efficient market has to be provided in order to encourage the producers to come forward and sell their products. The Company has to ensure that the producer gets the right price for their products.
- iii) Mutual trust is very essential for the partnership to go forward. Hence a long lasting and effective collaboration can happen only when there is a trust and respect between producer, intermediaries and consumer.
- iv) Education and skill set are very important component. Through these mediums only the BOP population can raise their standard of living.

Can BOP Population act as engine of Innovation?

The biggest dilemma that arises when company is expanding its products to BOP market is how to cater to BOP population with the existing resources and facilities of the company.

As illustrated in the figure above, the BOP should be seen as a market where a profitable business can be done and then innovation needs to be incorporated in the product or processes so that the end product is not sub standard and acceptable by the user.

The producer has to marry quality, sustainability, low cost and profitability simultaneously. The Innovation can begin by thinking along these lines:

- i) Rethink technology platforms and supporting business models: This may include radical innovations or a mixture of high tech and low tech solutions.
- ii) Focus on meeting basic needs, not just making more products: This requires identification of new sources of demand and reassessment of functional capability of an organisation.
- iii) Focus on capital efficiency: Efficiency in terms of resources etc. is required to achieve economies of scale.
- iv) Explore shared use, multiple access models: This will increase productivity and a wider customer base with affordable services from producer's perspective.
- v) Think across different disciplines: This will enhance the cross functional productivity and asset utilization.

Hence a change in mindset coupled with zeal to cater to BOP segment leads to the desire which culminates into growth engine of innovation.

How disruptive and Frugal Innovations help the BOP market?

There lies a distinction between different types of Innovations. Many categories are covered in the below mentioned table

As explained above, the disruptive innovation begins at the low end of the customer base and then it dethrones the incumbent. The basic principle is to know and recognise the customer needs.

The frugal innovation and disruptive innovation are sometimes used simultaneously but authors would like to draw a thin difference between the two. Frugal innovation usually starts at a low end, from the customer side, when a typical user changes a part of the product of machinery for his or her convenience. Disruptive innovation on the other hand, is more of a collective effort, from the company or organisation side, to understand and cater to the requirement of

the users. But in most of the literatures, this difference is not highlighted and both the terms are used simultaneously.

We will briefly discuss few examples of frugal or Disruptive innovation in the subsequent text:

- i) Suzlon(India) : Suzlon is India's largest wind power provider and is world's fifth largest wind turbine manufacturer. Suzlon gauged the potential of wind power generation as an important source of renewable energy and positioned its products well before competitors could recognize the opportunity.
- ii) Galanz(China): Galanz decided to be in the microwave business by designing and manufacturing its own products when the competitors were happy just being the contractors. Galanz made the customers aware about the microwave and the various recipes that can be prepared via microwave. Galanz captured 70% of the market share of the microwave oven in China where initially only 2% of the customers were using microwave oven.

Hence disruptive and frugal innovation are essential to cater to BOP markets as it keeps customers in focus and keeps the company/ organization profitable.

Conclusion

The bottom of the pyramid customer base is essential for company's growth and a company/ organization should be cautious before entering the BOP market. BOP population, both as a consumer and producer is essential for the mutual development of the company and BOP segment. Education and matching skill set are must if BOP segment have to improve their living standards. Innovations in terms of disruptive and frugal are essential to cater to the BOP market profitably. Hence collaboration between Producers, consumers, BOP customer base as well the Company is essential for redefining business flexibility.

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