

DIGITAL ENTREPRENEURSHIP AND THE BOTTOM OF THE PYRAMID- A CONCEPTUAL FRAMEWORK

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ABSTRACT

The world is moving towards digitalization and India is following the global trends quite diligently. As a country, within India we have both 'India' and 'Bharat' where it will not be wrong to say that the Bharat dominates in terms of its population. Bharat signifies the rural India, which, population wise dominates the rest of India and because of its size attracts both the Indian and the global marketer. The reasons for the same could possibly be, population of Bharat and its diversity in terms of culture and traditions and their purchase and consumption pattern of goods, services and ideas. The 'Bharat' side of India is much receptive than ever before to any entrepreneurial idea especially because of the easy availability of mobile phone, its services and internet. New concepts are evolving, and digital entrepreneurship is thus quite a talked about concept in today's time. As a layman one could say that 'Digital entrepreneurship' as a concept is a business idea that trails a digital route or influences digital technology. But can a digital businessperson deliver and meet the needs of all levels of the people pyramid is a question that needs to be answered. With the growth in the diffusion of the mobile telephones and internet providers in the country one is witnessing a phenomenon where the digital businesspersons are making considerable money by presenting products and services to fulfill the needs of the people at the highest and the intermediate level of the pyramid. But to reach out to the bottom of the pyramid such entrepreneurs must cross hurdles like relatively poor network, lack of education amongst the users of the products and services, smaller presence of smartphones and the very basic electricity issue. Bottom of the pyramid is primarily defined based on the income of the family and this market is a mix of urban and rural population, where the latter predominates. Therefore, it is important to comprehend how a digital entrepreneur meets the needs of the people at the lowermost of the pyramid in an unrelenting manner given the socio, economic and geopolitical setting in which the people at the bottommost of the pyramid live.

The paper presents a conceptual model explaining the factors that a digital entrepreneur must consider while offering his product or services to the market that is at the bottom of the pyramid in a relatively sustained manner. The conceptual model establishes relationship between various factors that influence the decision-making process of a BoP customer while making a purchase through the digital route. These factors have been categorized under the 4As of the marketing mix and include awareness, availability, affordability and acceptability. The paper also throws light on the hurdles a digital entrepreneur might encounter while reaching out to the people at the nethermost of the pyramid.

Keywords: *Bottom of the Pyramid, Conceptual Framework to win over BoP, Co-Creation*

INTRODUCTION

Technology or digital entrepreneurship is a much talked about concept in the present times. It is a dynamic concept and the very essence of the concept is changing very fast under the light of socio-economic and technological changes. The term 'Digital Entrepreneurship' is simply revealed to as the process of creating a fresh, innovative, novel business, product, service or impression that is either Internet enabled or delivered.

In the developing world, technologies like cloud computing is taking the business environment challenges faced by digital entrepreneurs almost head on. In most developing countries there are challenges in terms of infrastructure (hardware, software and ICT related) which pose a hindrance to the effective implementation of the policies pertaining to digital entrepreneurship. The challenges slow down the process of development, growth and successful expansion of the idea before the customers are exposed

to it. How does a digital entrepreneurship idea reach out to the people at the lowest end of the pyramid amidst challenges? There is no doubt that the aspirations of people across the world is increasing. There is no single magic formula to reach out to the potential customers anywhere but reaching out an innovation to the people at the bottom of the pyramid is much tougher.

Improvement at the BOP should ideally begin with the commitment to awareness, acceptability, affordability, and availability as the main organizing themes (Prahlad, 2011). DEM describes digital entrepreneurship as accepting "all new endeavors and the conversion of existing businesses that motivates economic and/or social value by forming and using original digital technologies" (Bogdanowicz, 2015).

An important feature of digital innovation ecosystem is its global nature (Fransman, 2014). It is therefore extremely important for all companies that innovate to reach out to people beyond their regional boundaries for the innovation to get absorbed and thus be widely accepted.

The founding elements of digital entrepreneurship are: robust and continually surfacing computing cloud, modularity, the end-to-end design of the internet, and its unbiased nature, and the digital nature of information goods (Renda *et al.*, 2016). Finance and access to finance, strong ICT network, investment of time and effort in R&D and continuous evolution is critical to the success of any digital entrepreneurial venture.

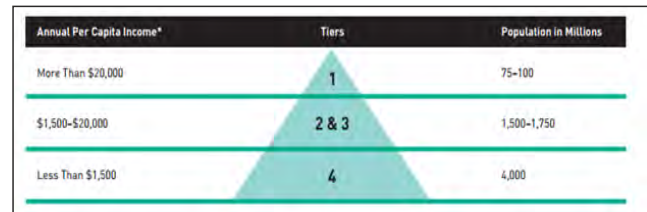
Bottom of the Pyramid in India

'Deprived' yet 'Aspiring' – defines the people at the lowermost of the pyramid in India - The Bharat side of India. It is still a challenge to precisely define the BoP in the Indian context because of the dynamic nature of the Indian market. Still, if we try to study reports published by leading research companies, one would say that it is quite simple to explain population at the lowest end of the pyramid on the foundation of numbers (population and income).

India's BOP represents 835 million people and represents the biggest BoP market in terms of the global BoP market and thus represents opportunities. India has in the recent past witnessed economic development and comparable rise in incomes has led to shrinking of India's BOP significantly, from 379 million adults in the year 2015 to 145 million adults in 2030 as per McKinsey Global Institute; Global Insight; EIU. The people in the BoP category as per this report are expected to substantially reduce to 145 million adults in India by 2030 which only means that the country will

only grow prosperous by 2030. The income of the people in BoP is "less than \$4 per day" with reference to household income.

Figure 1: World Economic Pyramid



Source: UN World Development Report taken from *The Fortune at the Bottom of the Pyramid; Strategy + Business Issue 26, First Quarter*

Tier 4 as represented in figure 1 shows the largest population and thus it takes the base of the pyramid. According to the above pyramid, this population consists of people with less than \$1500 annual capita income globally. The people who represent Tier 4 are the people who are living in rural areas, urban slums or purlieus. They have less or no proper schooling but fortunately are open to absorb any technological innovation (Prahlad & Hart, 2002).

The Pillars of Digital Entrepreneurship Model (Bogdanowicz, 2015) are Digital Knowledge Base and ICT Market, Digital Business Environment, Access to Finance, Digital Skills and e-leadership and Entrepreneurial culture.

Figure 2: Innovation and MNC Implementation in Tier 4

What drives Innovation	Implication for Companies
Increased access to information through TV, mobile and other media sources.	Customers are becoming more aware and aspirational.
Rise in the users of Internet in the Tier 4 because of the reasonable internet solutions provided by the internet service providers.	More access to information and access is possible in the language of their choice (This gives a platform to the companies to reach out to the people in different geographical areas.
Untapped Markets, Creation of New Markets, Localization of the product.	Innovate and adapt through a large variety of reasonably priced goods, services and ideas to capture mass population in the BoP. Focus on meeting functional needs of people.

LITERATURE REVIEW

Beckman *et al.*, (2012) explained technology entrepreneurship as a type of entrepreneurship that targets to exploit prospects related to advances in the field of science and engineering. Both generalizations are broad and are consistent with Bailetti's (2012) approach.

Digital business allows, products to reach out to the world quickly and cheaply and this they attribute to the power of the internet (Evans & Wurster, 2000). One extremely important tool available is the rise of

electronic communities that facilitate rapid exchange of innovative ideas; between Customers and the digital organization (Kozinet, 2002).

Technology entrepreneurship is a thriving concept in academia. But recent advances in the arena of digital entrepreneurship called for review and advancement. The many realistic combinations of technology and entrepreneurship have given rise to a variety of phenomena with different characteristics and socio-economic impact.

A detailed analysis of the different conditions for the creation of high on technology firms shows that the major technology-based ventures are driven and enabled by factors that are different from those that affect other types of start-ups (van Roy & Nepelski, 2016).

Technology-based companies which may include new ventures are the main tools with which new information and knowledge from the field of science, technology and engineering is given a shape to finally result into some meaningful economic benefits (Acs, Audretsch, & Strom, 2009; Acs *et al.*, 2009).

The model of entrepreneurship development is instituted on the concept that the impact of entrepreneur's contribution to a country's economy will differ according to its phase of economic development (Naude *et al.*, 2008).

Strover (2001) in his study pointed out that in countries where rural side predominates, 'access is offered but at an additional cost.' In other words, the use of the Internet services in rural areas comes down due to higher costs.

It is said that innovation is critical to the success of any business. The basic definition of innovation has changed and is continuously surfacing with time. Some say that innovation is the fruitful commercialization (Rogers, 1998). Another interesting definition reads that innovation is a new creation or significant improvement to existing practice (Baregheh, Rowley & Sambrook, 2009).

How can any digital business sustain over a period? Customer conviction is of utmost importance in the online or digital arena as customers more and more depend upon the Internet for information and purchases and can be more loyal online (Shankar, Smith & Rangaswamy, 2003).

“Trust is a psychological state encompassing the intention to accept susceptibility based on positive expectations of the intentions or behaviors of another” (Rousseau *et al.*, 1998).

Belanger, Hiller & Smith (2002) examined privacy and

security as a foundation or prerequisite of trust on the online stages and discovered that consumers cherished security features more than privacy seals or statements. Consumers consider security to be vital while making a purchase of goods or services. The Internet Security, in the online system is concerned with financial risk associated with the Web sites (Biswas & Biswas, 2004).

Experience shakes individual trust propensity (Lee & Efraim, 2001). Experience drives customer gratification (Shankar, Smith & Rangaswamy, 2003). Also, it has been observed that satisfaction is related to trust (Singh & Sirdeshmukh 2000). Privacy is also key driving force in developing online trust (Hoffman, Novak & Peralta, 1999).

Pitta, Guesalaga & Marshall, (2008) in their study revealed that if a business aims to achieve affordability, then the business must bring about reduction in the cost of production, make simple products and provide flexibility in payment.

Bloom *et al.*, (2010) have said that limiting products and labor market guidelines obstruct the growth and productivity effects of ICT Bloom *et al.*, (2010) said that it requires strategies that promote product market rivalry, greater tractability and faster adjustment in the labor market, and honesty in trade.

Anderson (2006) said that one of the big tasks of serving bottom of pyramid markets is to ensure accessibility of products and services throughout the country, not just in cities. Also, Garrette & Karnani (2010) said that the product should not bring any non-essential features since it will add to the cost and make the product exorbitant.

Chikweche & Fletcher (2012) argued that new channels will find it difficult to reach the BOP consumer as they do not have enough access to these channels as they usually live in areas where electricity is infrequent. Sheth (2011) highlighted that affordability and accessibility are relatively of much relevance when compared to superior products or differential advantage when offering a product to the market at the bottom of the pyramid.

Research Gap

There has not been enough research in the field of providing a conceptual model to offer innovation to the people at the bottom of the pyramid though both the aspects have been covered in different papers, but the connection has been missed by most of the researchers.

A Conceptual Framework

Business model is a replication of the firm's realized strategy. Even in modest competitive situations there is

a one-to-one charting between tactics and business model, which makes it difficult to separate the two concepts. Advances in information and communication technologies have resulted in best innovative business models to cater to the needs of users who fall in the middle and top of the pyramid. There is a need to make new tactics and business models to inspire users at the bottom of the pyramid to use e-commerce. Socially motivated companies that target the bottom of the pyramid generate an important source of business model innovations.

Timmers (1998) explained a business model as one which includes design for the product, service, information flows, a description of the profits for the business actors involved, and a portrayal of the sources of revenue. While Timmer's definition does not bound the notion of a business model to e-commerce, but he applies business models to that sphere by using two dimensions a) functional integration (number of functions combined) and b) degree of innovation (extending from translating a conventional business to the Internet, to create completely novel ways of doing business) resulting in eleven different Internet business models. Osterwalder, Lagha & Pigneur (2002) proposed an e-business agenda with four pillars: the products and services a firm gives the infrastructure and system of partners, the customer relationship capital, and the financial facets.

In the proposed conceptual framework identification of factors within 4A's that are going to affect the business model have been revisited that. The factors are further defined as follows:

Availability means the extent to which consumers are freely able to purchase and consume products and services. The components that we have analyzed under this category are skill of the user whether the user at BOP is able to use the IT technology using smart phones. Convenience of using digital technology, empowerment of socially excluded group to provide them the means of earnings to improve their lifestyle. Payment method should be easier to users at BOP as they could get comfortable in using payment modes like cash on delivery, security mechanisms in terms of cash they have paid and information they have shared online (like phone number, address etc.) and lastly post purchase service support to share their feedbacks and problems easily.

Acceptability refers to the degree to which consumers in the value chain are willing to consume, distribute or sell a product or service. Tripathi & De (2007) highlighted that pioneering products designed for BOP markets should be value-oriented from the consumers' point of view and should be able to deliver both tangible

(value for money) and intangible (high self-esteem and financial independence) benefits. Products with manifold uses will be very much liked by BOP consumers who are constantly going for value for money. The factors that we have analyzed under this category are Trust which can be subdivided into brand image and brand value place overriding focus on Customer Relationship Management in order to develop faith, backing and loyalty on the part BOP consumers, Perceived functionality of the product, satisfaction of the user, user friendliness how easily the user can use the product and product usage whether it is fulfilling the requirements of the user.

Awareness the marketing managers functioning in BOP markets need to create awareness about the product and service through various modes of communication like radio, T.V., hoardings, pamphlets distribution and fairs etc. It boils down to making sure that everyone there understands that such product or service is available and knows how to use it.

Affordability the supply should be suitable for the local people's wallet. This is a real challenge because the people at the bottom of the pyramid are value conscious and want value for money. But as there is cash crunch, so products should be available in economy packs without compromising on the quality.

Five Pillars of Digital Entrepreneurship Model

The five pillars of digital entrepreneurship are digital business environment. Digital awareness base and ICT market, digital expertise, entrepreneurship culture and easy access to finance. This implies that for selling any kind of product or service must have a value for the BoP Consumers. As money is scarce, BoP people need to be offered such goods which provide immediate value creation. Also, an environment where consumers have easy access to technology will act as a catalyst in adoption process. The entrepreneurs should develop and nurture a culture of market creation and not market development. There is lot of untapped potential for value creation at the lower level of the pyramid. The consumers have awareness about brand and value. Today BoP consumers are getting connected and networked. A nurturing digital environment can help them exploit the benefits of new technology and lead to ready acceptance of new technology.

Many companies and entrepreneurs know the strategic and economic advantage of involving themselves in the growth and development of electronic networking. Policies that use more and more of technology, labor, modernization and entrepreneurship in the growth process, along with policies and procedures to mobilize labor and intensify investment, are likely to bear more

returns in the long run. But the role of government is very crucial in ensuring macroeconomic stability and competition. Also, it must ensure that economic and social institutions are functioning effectively.

Digital enterprises use new and upcoming information technologies like social media, big data, mobile computing and cloud solutions to help improve business activities and business intelligence, develop new business models that help in creating new jobs and growth opportunities in future. It is important to test the compatibility of the technology. They also engage with customers and stakeholders. The proposed model considers the fact that a digital entrepreneur while designing, developing and nurturing a product, service or idea should ideally keep in mind the pillars of digital entrepreneurship.

Co-Creation or Customer Engagement

The term co-creation is a study of customer participation in product creation. This research was initiated by Lovelock & Young (1979), who identified customer involvement in service production, can be a potential source of productivity gains. The people at BoP will not attract to any of the digital business model if we are not providing them some means of improving their income so that they can in turn improve their lifestyle. The key BoP protocols are "mutual value" and "co-creation". The term mutual value refers to creating value for all partners with respect to their importance in every stage of the process, not simply the new business. The "co-segment of "co-creation" catches the requirement for the organization to work in equivalent association with BoP people group to envision, dispatch, and grow a reasonable business. Co-advancement goes about as an impetus in characterizing plan of action and guarantees that the model is socially fitting and earth economical by consolidating nearby assets and abilities.

The accentuation of co-creation must be surely increased impressive ground among BOP analysts and professionals (Nakata, 2011). It is presently called for in forming items, administrations, plans of action, mentalities, advertises and even the entire advancement biological system at BOP markets (Gradl & Jenkins, 2011; Sanches, Ricart & Rodriguez, 2006; Seelos & Mair, 2006; Simanis & Hart, 2008).

Here, the adjustment, use and support of merchandise by clients are a basic piece of significant worth creation in products generation as the client is dependably a co-creator. Co-creation suggests joint making of wares and furthermore another comprehension of purchasing as a component of an affair as opposed to a negligible exchange. The nearby individuals could help to co-

make, co-disseminate and co-procure and they could fill in as clients, fractional representatives or even brand diplomats.

The need to co-make new corporate mentalities has likewise been featured by London and Hart (2004). For sure, they portray the conventional attitude of MNCs as a colonialist and ruined one: MNCs try to pitch their current items to elites; anticipating that they should look; act and 'create' like Westerners. Destitute individuals are occasionally observed as potential co-makers, accomplices or clever business visionaries. This mentality accepts; can change, when an organization takes part in co-creation at BOP markets London & Hart (2004).

Co-creation with neighborhood individuals can be a crucial wellspring of learning and comprehension of the nearby needs and practices. The need to assemble client information and expand on client made items is additionally featured in advancement writing identified with best of the pyramid markets (Grassmann, 2006; von Hippel, 2001). Be that as it may, the need is yet more grounded when MNCs enter poor markets, because these organizations are exceptionally new to poor markets and poor shoppers.

Co-creation and partnerships with legitimate neighborhood performing artists can be vital for MNCs to build legitimacy and trust at BOP markets (Dahan, Doh, & Teegen, 2009; Rivera-Santos & Rufin, 2010; Webb *et al.*, 2009).

Collusions and co-creation with neighborhood performing artists can help MNCs work in creating nation settings where numerous formal foundations might be feeble or missing. A few investigations have built up institutional shortcomings and imperatives as one of the key contrasts among poor and wealthier economies.

In the discussion of BOP there is need that the product should not only meet the aspirations of the people but should lead to value creation. The product should be useful at least cost. There cannot be cost quality trade-off. To bring about cost reduction the focus will be on reaping economies of scale so that benefit of bulk selling can be reaped. The quality cannot be compromised. The technology should be compatible with local needs and resources. The focus should be on exploiting locally available resources and skills so that capital is utilized to the fullest. As people at BOP do not have much exposure to newest techniques there will be effort for online demonstration and helping them to place orders. Prahalad (2005) also says that they are ready to accept the newest techniques, so adoption rate

is fast.

Explanation

It all starts with an entrepreneurial idea. Idea should be discussed with the people at the BoP who could possibly be the end users and even co-creators or co-distributors of the idea. The entrepreneur must visualize the product in the BoP landscape and this can happen best when s(he) involves people from the BoP in product discussion, creation, distribution and delivery. On a limited level the idea should be pilot tested. The entrepreneur must use technology for the website or the mobile application in such a way that it is compatible with low end smartphones while keeping in mind the social, political, economic, legal and technological and cultural environment and must be easy to use and must speak the language of the people at the BoP. The entrepreneur must be equipped enough to lead the team in such a way that the skill set of the team members (who could be co-creators of products and services) could be adequately developed to excel in Bottom of the pyramid market. It would be healthy to create business partners (profit sharing basis) from among the members of BoP. This will lead to empowerment of people in the BoP and a wider acceptance (example Project Shakti by Unilever). It is a simple formula, with the involvement of the members of the BoP as co-creator in the process

of value creation makes it easier for the marketer to understand and serve the market well. The marketer should create communities that will work in not just to promote the product but also would strive hard to create value in terms of employment generation and possible engagement for the local communities. The product which is designed should have functional use and should focus on volume sale to create profit in the short run and wealth in the long-run. Also, in case it is not a service than it should also focus on the online demonstration of the usage of the product. The 4 A's (awareness, affordability, availability and acceptability) will all together be considered while offering the product. Once the co-created product/service is offered to the customer at the BoP, s(he) would first evaluate it as per needs and would list out alternatives (if available) before making a final decision on the purchase. The purchase will happen when the customer is convinced with the offering and has both the willingness to buy and ability to pay. The post purchase stage will be critical. If the customer is happy with the purchase and is satisfied enough then there could be a repeat purchase. But in case there is level of dissatisfaction then there will be no repeat purchase. If there is a repeat purchase and it is continued, then the entrepreneur can be confident that the product is working in the BoP ecosystem.

Figure 3: How Does the Entrepreneur and Bottom the Pyramid Work Together?

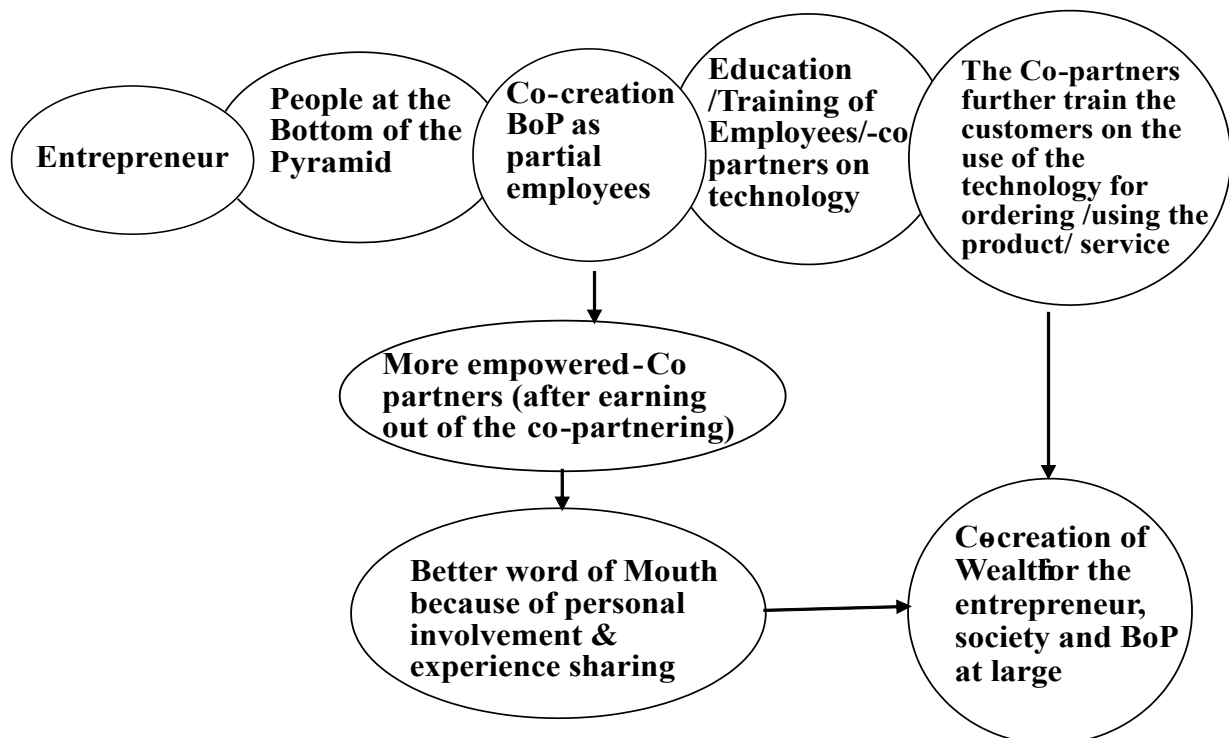
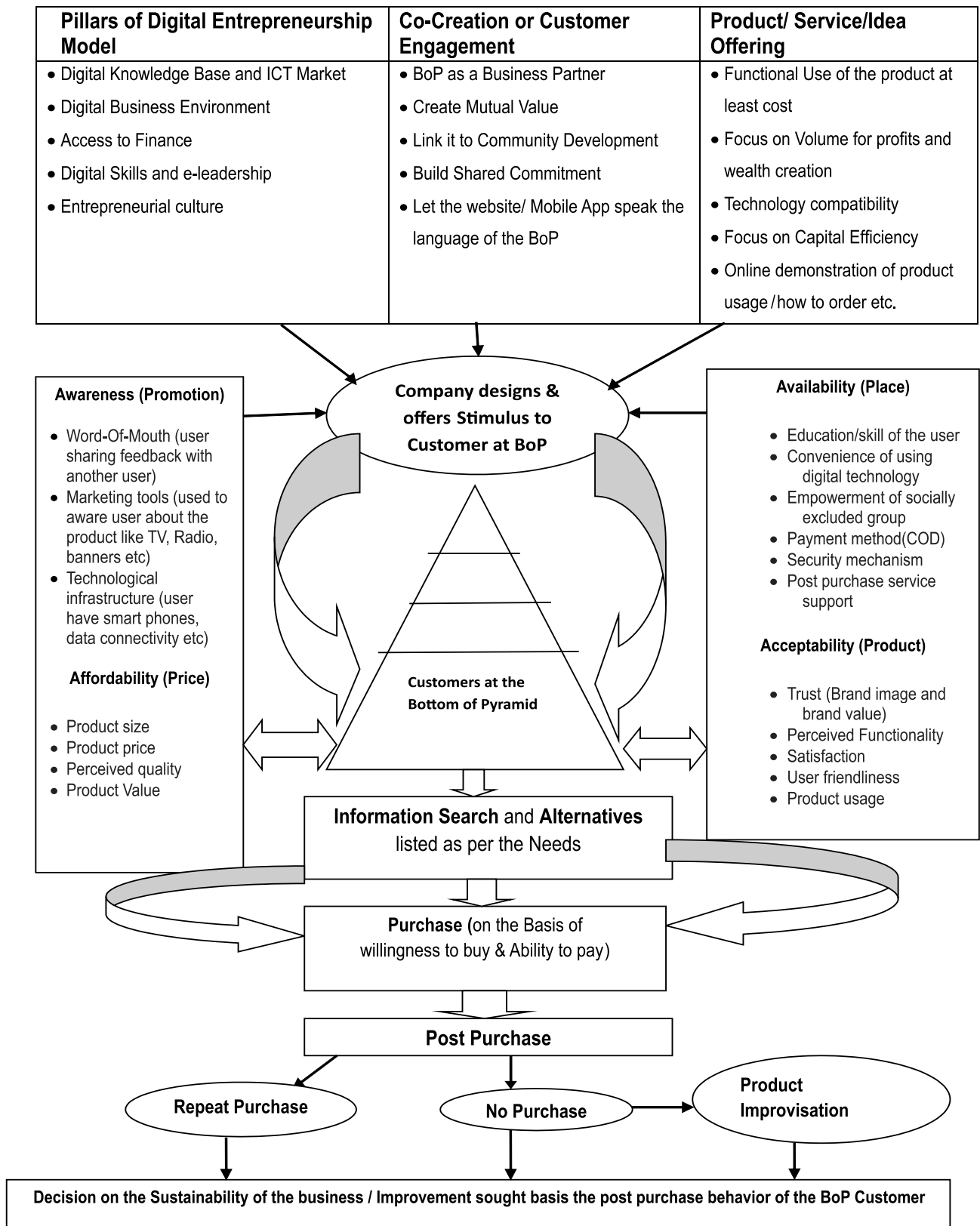


Figure 4: Model: Creating a successful Model for winning over BoP



CONCLUSION

With the improved technological interventions in bottom of the pyramid segment in India, the time is ripe for the digital entrepreneurs to enter the market with innovative solutions (keeping in mind the various factors like awareness, affordability, the bottom of the pyramid in India proposes to be a very lucrative market for the digital entrepreneurs. The paper provides a step towards the systematic development of business model for sustaining in the BoP market. A reliable and practical classification framework for business models has been also taken and light has been thrown on how to generate revenue and profits of organization through the digital route. Any idea should be pilot tested first, before the big launch in the BoP market. Diversity in geographies of India could pose a challenge to the entrepreneur who will find it difficult to provide solutions to everyone in this market. Yet, it is important for the entrepreneur to ensure that the technology base should be compatible with the phones and gadgets on which the people in the BoP will access the site or mobile app developed by the entrepreneur to promote the business. The framework can ideally provide investors with a useful magnifying lens to analyze and define potential investments in the BoP market. The best strategy is to combine local capabilities and market research with standard practices in international arena. An effective combination of local and global knowledge is needed. Moreover village-based phones coupled with growth in internet have revolutionized the communication scenario and opened the floodgates of opportunity and gains at BoP.

Future Scope

The model and factors influencing the decision-making process of people at the bottom of the pyramid has been identified in this paper and this leaves enough room to give direction to the empirical study to be conducted soon. The proposed conceptual model raises more questions than providing answers. It provides a basis for future work.

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