

Innovation in subsistence marketplace: an analysis considering multiple concepts and approaches

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Introduction

Publications about innovation in subsistence marketplace and poverty environment has grown recently and gained more space in academic debates (Corsi & Di Minin, 2014; Subramaniam, Ernst, & Dubiel, 2015; Viswanathan & Venugopal, 2015; Venugopal & Viswanathan, 2017). These publications encompass different areas of knowledge such as business, economics, sociology, psychology, engineering, agronomy, and technology fields. Within the management area, the subsistence marketplace also emerges from different sub-areas such as marketing, strategy, organizational studies, public policy and management innovation.

Surrounded by this diversity of backgrounds which think, practice and publish on the subsistence marketplace, different problems and needs are presented. These problems result in potential proposals for innovations solutions regarding health, food, transportation, sales, behavior, entrepreneurship, social business and technology. This variety of solutions involving organizations with different profiles as private companies, public companies, NGOs, B2B companies, B2C companies and small and informal businesses.

This plurality shows us that the debate on the problems and solutions regarding the subsistence marketplace have evolved. On the other hand, it does not mean that the science surrounding this issue is already mature enough (Viswanathan & Venugopal, 2015). We still find many methodological and theoretical misconceptions about how to solve problems of poverty regarding markets, economic, health, transportation, food, and energy.

Regardless of the background used in each new publication concerning the subsistence marketplace, we believe that only through innovation and its many variations, we will attain significant progress in crafting solutions to overcome global problems associated with poverty (Brem & Wolfram, 2014; Viswanathan & Srekumar, 2017). Therefore, we believe that the concept of innovation should be incorporated into the mindset of those tackling poverty issues in many different areas. Even among the innovation area, many theories have emerged to address the subsistence marketplace, like disruptive innovation, frugal innovation, reverse innovation, inclusive innovation, B.O.P. (base of the pyramid) innovation, low-cost innovation, jugaad innovation and others (Brem & Wolfram, 2014).

In addition to the different concepts of innovation explored to address the subsistence marketplace, we assume two main approaches that can be explored, the top-down approach and the bottom-up approach (Viswanathan, 2017). The top-down approach assumes a prescriptive guideline from organizations to individuals, while the bottom-up approach values the deep understanding of individuals of the subsistence marketplace aiming the protagonism of their rights.

Therefore, the objective of this article is to explore the different concepts of innovation used in publications on the subsistence marketplace, assuming the top-down and bottom-up approaches. Our contribution results in a table 2 (approach) by 5 (innovation concepts), which points out the publications in each theoretical condition. One of the main results are two empty cells in the table. Our article also deepens the discussion of these two gaps found.

Innovation in Subsistence Marketplace

Innovation in the subsistence marketplace does not happen the same way in out of subsistence contexts (Radjou & Prabhu, 2015). The concept of institutional voids presented by

Khanna and Palepu (2013) explores the fragmented infrastructure conditions found in emerging markets and provides guidance on how organizations must adapt strategy to reach this market. The uncertainty of the subsistence marketplace occurs when certain constraints appear, such as lack of electricity, delay in transportation, food issues, housing and health, low literacy of people, lack of knowledge and information, and economic instability. These uncertainty drivers require different guidelines from companies operating in these markets. To minimize the impact of these uncertainties, it is necessary to focus on a series of issues that will affect the process of innovation. Extant research has focused on the following topics when focusing on the subsistence marketplace: accessibility (Anderson & Billou, 2007), education (Lee, Lin, Wong, & Calantone, 2011), ease of use (Nakata & Weidner, 2012), low literacy (Viswanathan, Sridharan, Gau, & Ritchie, 2009), scalability (Prahalad, 2012), quality (Foster, 2014), functionality (Ray & Ray, 2010), value chain (Esko, Zeromskis, & Hsuan, 2013), simplicity (Basu, Banerjee, & Sweeny, 2013) and affordability (Anderson & Markides, 2007).

Due to these uncertainties, companies dealing with innovation in subsistence marketplace cannot operate in the same way (Govindarajan & Trimble, 2013). This has created the space for the development of different concepts of innovation. Our article deals explicitly with the central concepts of innovation found in the literature that relate to the subsistence marketplace, such as BOP innovation, disruptive innovation, frugal innovation, reverse innovation and inclusive innovation. We discuss these concepts focusing on their strategic alignment on how to overcome the problems that these uncertainties generate. In the next section, we will explain the five concepts mentioned before.

Innovation for BOP

Innovation for BOP follows the guidelines of the first publications on the bottom of the pyramid market driven by Prahalad and Hart (2002) and Prahalad (2005). This concept focuses on creating awareness, access, affordability, and availability (4As), to create an exciting environment for innovation in emerging markets (Anderson & Billou, 2007; Prahalad, 2012).

Availability means the extent to which customers are able to readily acquire and use a product or service (Anderson & Billou, 2007). Distribution channels at the bottom of the pyramid markets can be fragmented or non-existent and the task of simply getting products to people can be a major hurdle to overcome. Companies need to explore alternative methods of delivering their products and services to even the most isolated BOP communities (Prahalad, 2005).

Affordability means the degree to which a firm goods or services are affordable to BOP consumers (Anderson & Markides, 2007). Many low-income consumers in developing countries survive on daily wages, meaning that cash-flow can be a significant problem. Companies need to be able to deliver offerings at a price point that enables consumption by even the poorest consumers.

Acceptability means the extent to which consumers and others in the value chain are willing to consume, distribute or sell a product or service. In BOP markets, there is often a need to offer products and services that are adapted to the unique needs of both customers and distributors (Prahalad, 2012). Companies might need to respond to specific national or regional cultural or socioeconomic aspects, or to address the unique requirements of local business practices.

Awareness means the degree to which customers are aware of a product or service. With many BOP customers largely inaccessible to conventional advertising media, building awareness can be a significant challenge for companies wishing to serve low-income consumers in the developing world. To overcome these constraints companies must explore alternative communication channels (Anderson & Billou, 2007).

In addition to the 4 As, a combination of scalability, technology, and sustainability are also vital to promote innovation in the subsistence marketplace. The implementation of these practices impacts innovation and turns possible for companies to develop, manufacture, distribute, and sell their innovative products in the subsistence marketplace (Nogami, Pilli, Mazzon, Vieira, & Veloso, 2015). The rationale behind this concept focuses on how companies should act to serve the market.

Disruptive innovation

The concept of disruptive innovation sheds light on the failure of large companies seeking innovation in traditional markets, especially when impacted by market myopia and are overtaken by new entrants that launch new products based disruptive technology (Christensen, 1997, 2013). Initially, disruptive innovation has been discussed within the technology context, but we find some exciting connections within the context of the subsistence marketplace, especially when considering the conditions of uncertainty, the level of product performance (high vs. low) and the demand for consumer technologies (high vs. low) (Christensen & Raynor, 2003). To explain this phenomenon, the author introduces the concept of sustaining and disruptive technology. For sustaining technology, see Christensen (1997), Christensen & Raynor (2003), and Christensen (2013).

Disruptive technology is innovations for existing products, but with attributes being evaluated differently, mainly non-traditional and underserved consumers. Disruptive innovation changes social practices, how we live, work, and relate (Christensen, 2001). In other words, it is not the technology itself that matters, but its use. These innovations are initially lower performance compared to the main attributes of sustaining technologies. Disruptive innovation begins with the supply of the need for a less demanding public and gains strength gradually until it begins to meet the other needs of the most demanding customers, then there happens to be a threat to large companies which are based on sustaining innovations (Corsi & Di Minin, 2014).

Disruptive innovations are primarily commercialized in emerging markets because their characteristics do not please consumers in traditional markets, or upper classes (Nogami & Veloso, 2017). Therefore, the Marketing department has more responsibility for disruptive technologies than own technology and R&D department. Hence, the sustaining innovations are positioned to TOP (top of the pyramid) and disruptive innovation are positioned to BOP (Christensen, Johnson, & Rigby, 2002; Ray & Ray, 2011). However, to achieve profitability, disruptive technology should be commercialized on a large scale, like any other market that works with low margins.

Frugal innovation

Frugal innovation, also known as frugal engineering or constraint-based innovation is innovation process address to needs and context of uncertainty of subsistence marketplaces (Khanna & Palepu, 2013). The term frugal innovation has been used to denote innovations specifically developed for resource-constrained people in constraints conditions in emerging markets (Zeschky, Winterhalter, & Gassmann, 2014).

Gupta (2011) points out that frugal innovation is a new philosophy, which integrates specific needs of the subsistence marketplaces as an initial point to develop appropriate solutions that might be significantly different from conventional solutions designed for developed markets. This view shows us the phenomenon in different dimensions (Brem & Wolfram, 2014). Firstly, frugal innovation focuses on individuals living in a poverty-environment and as co-developers of adaptive products (Zeschky, Winterhalter, & Gassmann,

2014). Secondly, frugal innovation refers to the extensive approach of adapting product management, production, and development to perform a sufficient level of satisfaction without high technology necessity (Brem & Wolfram, 2014). Thirdly, the resulting solutions should also satisfy high-income demand (Zeschky et al., 2014).

This innovation focuses on developing appropriate, adaptable, affordable, and accessible services and products for emerging markets (Basu et al., 2013). Social enterprises are built around the idea of frugal innovation and entrepreneurship to solve sustainability challenges in subsistence marketplaces. Frugal innovation should focus on the development of simple and sustainable products, processes, and business models with a low input of resources, low cost, and little environmental intervention (Brem & Ivens, 2013). In other words, frugal innovation is driven by the uncertainties of subsistence marketplace for solutions to alleviate the poverty (Khanna & Palepu, 2013).

Frugal innovation typically does not have sophisticated technological features but attends to basic needs with a low-cost level (Simula, Hossain, & Halme, 2015). In contrast to conventional innovations, frugal innovations are products developed for specific applications in resource-constrained environments (Zeschky et al., 2014). Although in most cases existing technologies are employed, frugal innovations are typically built on new product development that allows entirely new applications at much lower price points than existing solutions (Zeschky et al., 2014).

Reverse innovation

Reverse innovation encompasses innovations that are initially adopted in developing economies and later on in developed economies (Govindarajan & Trimble, 2013). The concept of reverse innovation was built on the premise that innovation in emerging markets should not be based on adjusting and adapting products from rich countries to poor countries. The focus should be on developing products from scratch, focusing on the local needs and uncertainties of the market (Govindarajan & Ramamurti, 2011).

This concept was created because historically innovations are initially developed and adopted in rich countries, however, the opposite direction has occurred (Subramaniam et al., 2015). Once the high-income market becomes saturated, large companies are beginning to look for subsistence marketplace with different eyes, then innovate in that market becomes fundamental, yet innovation in this case does not always happen the same way as in rich countries, so the concept of reverse innovation is highlighted (Govindarajan & Ramamurti, 2011; Khanna & Palepu, 2013).

Traditionally innovations are created and adopted in rich countries; however, the opposite direction has occurred (Subramaniam et al., 2015). When high-income markets become saturated, large companies are prompted to look at subsistence marketplace with renewed interest, making innovation in the subsistence marketplace more critical, even if innovation happens differently from rich countries, so the concept of reverse innovation is highlighted (Govindarajan & Ramamurti, 2011; Khanna & Palepu, 2013).

Historically, reverse innovation happens rarely, because we intuitively think of innovation as flowing from the top to down, or from rich to poor countries (Govindarajan & Trimble, 2012). Therefore, an innovation created in developing countries, with local technology and then exported, and adopted by developed countries seems counter-intuitive. Given this premise, the strategy of 'Glocalization' makes more sense (Govindarajan & Trimble, 2013). This strategy is nothing more than the practice of exporting products developed in rich countries

with slight modifications to fit the emerging market, then making products cheaper and with fewer attributes (Nogami, Vieira & Veloso, 2018).

The logic of reverse innovation goes against this consensus. According to Govindarajan and Trimble (2013), what works in the rich world will not automatically achieve broad acceptance in emerging markets, where customer needs are entirely different. Thus, the importance of reverse innovation evolves from an economic role to a social role, impacting the redistribution of income, access to technology and wealth of countries and companies (Immelt, Govindarajan, & Trimble, 2009). Based on reverse innovation, developing countries can accelerate economic growth, and as a result, contribute to other significant areas such as communications, infrastructure, education, science, and health.

Inclusive innovation

Foster and Heeks (2013b) define inclusive innovation as the inclusion of some innovative aspects groups that are often marginalized. This definition takes into account two questions: who are the marginalized and how to characterize their needs to be included in the context of innovation. Groups identified as marginalized include women, youth, people with disabilities, ethnic minorities and informal entrepreneurs (Heeks, Foster, & Nugroho, 2014). We assume that individuals in subsistence marketplace are another example of marginalized groups.

The consumer-manufacture relation should be considered vital when contemplating the innovation process happening in the low-income market. Several characteristics of that market point in that direction, but this is not what has happened. Another factor is the infrastructure constraints and a shortage of features that make them more risk aversion and consequently greater aversion to adopting an innovation. The heterogeneity of this segment intensifies the complexity of the market. All these elements have been cited previously by different authors in different contexts and are also highlighted by the theory of inclusive innovation (Heeks et al., 2014).

The assumptions of inclusive innovation flow from individual level to environmental level. Level 1 (intention): an innovation is inclusive if it focuses on the needs of the marginalized group. Level 2 (consumption): an innovation is inclusive if it is adopted and used by the marginalized group. Level 3 (impacts): considering innovation as inclusive if it has a positive effect on the livelihoods of the marginalized group. Level 4 (processed): an innovation is inclusive if the marginalized group is involved in the development of the innovation. Level 5 (structure): an innovation is inclusive if it is created within a structure that is itself inclusive. Level 6 ((ost-structure): an innovation is inclusive if it is created within a frame of knowledge and discourse that is itself inclusive.

These assumptions begin at the individual level and go to the macro environment level, involving a gradual deepening and broadening of the extent of the inclusion of the marginalized group for innovation. In general, each level accepts the addition of previous levels. Then, inclusive innovation can be in the product, service, process, organization, business model, supply chain and other performing the role of inclusion of marginalized groups.

Bottom-Up and Top-Down Approaches

To understand the contrast between bottom-up and top-down approaches we categorize the market in three levels: macro level, mid-level and micro level (Viswanathan, Jung, Venugopal, Minefee & Jung, 2014). The macro level consists of economic, governmental and global policies issues of the subsistence marketplace. The mid-level consists of marketing and

management strategies in the organizational context of the subsistence marketplace. The micro level consists of the individual behaviors of people who play the role of entrepreneurs and consumers in the subsistence marketplace. Figure 1 illustrates the top-down and bottom-up approach within this perspective of three levels in subsistence marketplace.

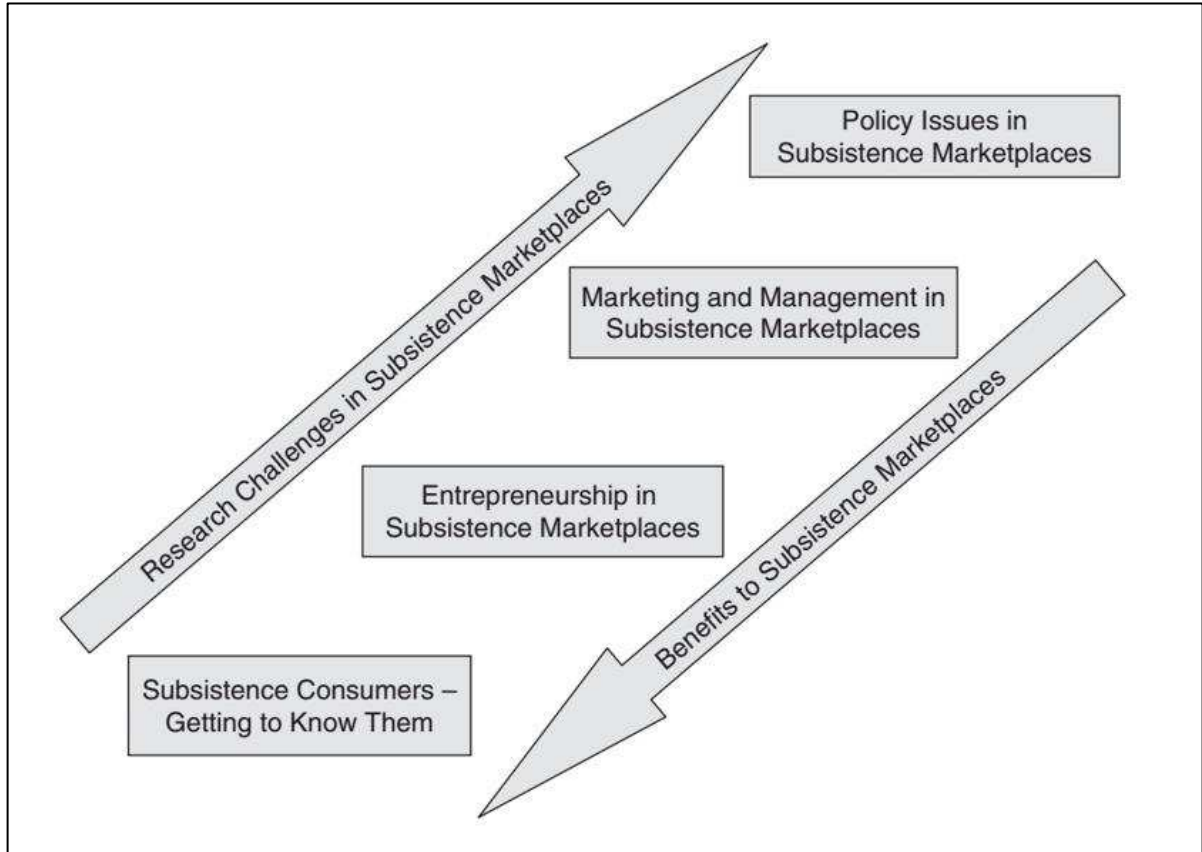


Figure 1: Subsistence Marketplaces Levels
Source: Viswanathan et al. (2014).

When decisions in the subsistence marketplace searching innovative solutions are made by the rulers to change how organizations work and change the behavior of entrepreneurs and consumers, we consider a decision with a top-down approach (macro→meso→micro). When decisions in the subsistence marketplace searching innovative solutions are made from the understanding of local and individual characteristics and emerge for the organizations and the government, we consider a decision with a bottom-up approach (micro→meso→macro).

Top-down approach

Problems with poverty have always been global concerns in both rich and poor economies. Nonetheless, a number of international associations and institutions are set up to try to minimize these issues, which involve refugees, people affected by environmental disasters, communities without sanitation and electricity, regions with lack of jobs, health and education, among other infrastructure issues.

A top-down approach seeks to solve these problems by proposing prescriptive suggestions based on their concerns not always considering the real circumstances of the subsistence marketplace. The problem resides in governments and top-level executives relying on previous strategies used in developed countries to solve poverty problems, but they do not always reach this goal efficiently because their solutions are disconnected from the reality of

people in the poverty context. There is no point in using the same methods to solve different problems.

Furthermore, there are still institutions that, in addition to making top-down decisions, see the population living in poverty as a business opportunity to explore new markets. This approach may even point to some advantages, but its benefits are not sustainable in the long term, as poor people will continue to be poor and depend on the decisions of the big players in the market. Creating marketing strategies to take money from people in poverty and thinking that this is improving their lives is nothing more than a mirage (Karnani, 2007).

However, large organizations, large projects, large budgets and decision-making power come from the top-down. It is necessary to have the big players in the market aware of what happens in the subsistence marketplace. Therefore, the bottom-up approach to solving problems emerges from the individual's local context to provide insight generation for organizational (meso-level) and governmental (macro-level) optimal decision making.

Bottom-up approach

Differently, from top-down approaches focusing on government and business, the bottom-up approach focuses on the micro level to gain a deeper understanding of life circumstances and marketplace interactions of subsistence consumers and entrepreneurs (Viswanathan, 2017). Such perspective provides insights into both market and policy initiatives that complement those offered by more macro level and meso-level approaches.

Understanding the behaviors of low-literate people and low-income consumers, moving on to the behaviors of entrepreneurs (micro level) innovative insights can inform other levels of analysis, such as enterprise ecosystems, product development, enterprise models, and, ultimately, sustainable development (Viswanathan, Jung, Venugopal, Minefee & Jung, 2014). From inside out perspective, this approach can be used to enable people to spend better their money and entrepreneurs perform better activities.

The bottom-up approach presents itself as an alternative perspective, unlike top-down approach guidance, this stream emphasizes the building of knowledge from the individual to generate better and local innovative solutions that can be expanded. Therefore, this phenomenon takes place mainly in small businesses than in large corporations. Thus, concerns about job generation, and especially the encouraging entrepreneurship, tend to be more critical than marketing strategies (Viswanathan, 2016). The objective of this approach is the poverty eradication and improving the quality of life, so businesses seek social impact and not just profit.

The bottom-up approach seeks to understand the subsistence marketplaces in depth, examining consumer, seller, entrepreneurs, and marketplace behaviors at the individual level. This stream contributes to macro-level economic and meso-level business strategy approaches, providing a deeper understanding of behavioral that direct the exchanges transactions on the marketplace (Viswanathan, 2016). Studies with a behavioral perspective are central to the further development of innovative solutions on subsistence marketplace, and that detailed understanding at this level is essential for developing effective business models and technological innovations to alleviate poverty.

Policy implications that stream from this analysis are multiple. In general terms, the marketing (and market) perspective is uniquely situated in providing micro level marketplace insights to inform higher-level policy decisions. Specifically, in term of what is subsistence consumer and entrepreneurial behavior in subsistence marketplace. At the meso-level, policy

issues revolve around the commercial and social enterprise in subsistence marketplaces, including the arena of public-private partnerships. At the micro level, policy issues include encouraging entrepreneurship and empowering literacy consumers (Viswanathan and Venugopal, 2015).

Psychological and social knowledge at the micro level provides a variety of insights to meso and macro-level implications. This vision is in the same side of the subsistence marketplaces approach, which concerns with a bottom-up orientation, starting with generating a better understanding of individuals, communities and the socio-cultural contexts of marketplaces in poverty (Viswanathan, 2016).

It is possible to compare a bottom-up approach versus top-down approach in different forms. One of the most impactful ways would be to stop looking for standardized solutions of concepts already used in conventional markets (top-down), to allow oneself to understand subsistence marketplace through real experiences in loco, experiencing poverty and reducing pre and misconception (bottom-up). The main advantage of the bottom-up approach considering the top-down approach is that bottom-up is immersive in terms of understanding, emersive in terms of learning and emergent in terms of solutions.

With the bottom-up approach, a plural direction of research regarding how understanding at the micro level can provide rich insights and policy-making at more aggregate levels (Viswanathan & Venugopal, 2015). While the bottom-up approach addresses an academic and market gap, it is responsibility on researchers in this stream to illustrate how this approach and its specific insights perform higher-level decision-making.

Analysis of Innovation at Subsistence Marketplace Under Multiple Concepts and Approaches

We set up a figure comprising those innovation concepts in the subsistence marketplace (bop innovation, disruptive innovation, frugal innovation, reverse innovation and inclusive innovation) crossing up with subsistence marketplace approaches (top-down and bottom-up). Additionally, we include a sample of papers (*italic*) that represent each cell of the figure to illustrate what we are categorizing theoretically.

	BOP innovation	Disruptive innovation	Frugal innovation	Reverse innovation	Inclusive innovation
Top Down	Innovation at SM focus on organizations	Disruptive Innovation at SM focus on organizations	Frugal Innovation at SM focus on organizations	Reverse Innovation at SM focus on organizations	Inclusive Innovation at SM focus on organizations
	<i>Anderson & Markides (2007); Prahalad (2005)</i>	<i>Christensen (1997) Hang, Chen, & Subramian (2010)</i>	<i>Brem & Ivens (2013) Altmann, & Engberg (2016)</i>	<i>Govindarajan & Trimble (2012) Corsi, Di Minin, & Piccaluga (2014)</i>	<i>Foster & Heeks (2013a), George, McGahan, & Prabhu (2012)</i>
Bottom Up	Innovation at SM focus on individuals	Disruptive Innovation at SM focus on individuals	Frugal Innovation at SM focus on individuals	Reverse Innovation at SM focus on individuals	Inclusive Innovation at SM focus on individuals
	<i>Nakata & Weidner (2012) Viswanathan & Sridharan (2012)</i>	<i>Gap</i>	<i>Gap</i>	<i>Govindarajan & Ramamurti (2011), Govindarajan & Trimble (2013)</i>	<i>Foster & Heeks (2013b), Foster & Heeks (2013c).</i>

Figure 2: Categorization of Innovation Concepts
SM: Subsistence Marketplace

Our theoretical analysis pointed out that there are some critical research gaps. There is lack of studies involving disruptive innovation and frugal innovation by the bottom-up

approach that should be addressed. In-depth, we can also conclude that the top-down approach is more common than the bottom up in terms of research about subsistence marketplace and innovation.

This analysis shows that there are opportunities to perform and investigate disruptive innovations and frugal innovations from the bottom-up approach. In other words, problems related to poverty in terms of markets, economic, health, transportation, food and energy are debated more from a macro and meso perspective than a micro perspective. Immersing in the context of the subsistence marketplace can generate better and more effective insight to generate innovations (all types).

Our point is to hear and understand the context of poverty by the view and experience of people living in poverty at least by executives and academics who have conclusions within their meeting rooms, result in better subsistence marketplace solutions. This can happen for several reasons, access to livelihood places with poor infrastructure is one of them. Take the researchers and executives from the comfort of their laboratories in universities for extreme conditions of poverty does not seem a simple task.

Filling the Gap – Business Plans Case Studies

To fill the two empty cells in figure 2 (gaps) we present two business plans, one to illustrate disruptive innovation vs. bottom-up approach and other to illustrate frugal innovation vs. bottom-up approach. These two business plans were chosen out of 15 plans developed between 2011 and 2015 by student at a university from the Midwest in the USA. These projects were performed by multidisciplinary student teams of a year-long graduate-level university course. Based on these insights, testable research propositions are developed, as a platform for future “theory-testing” empirical research, followed by implications for product development research and practice.

For more information on subsistence marketplace projects and the immersion course behind these projects, see Viswanathan, Yassine and Clarke (2011) and Viswanathan and Sridharan (2012). The choice of the two projects was made arbitrarily to fill the literature gaps pointed out in figure 2.

Disruptive innovation x bottom up

The first business plan is Drishti, a project which objective is to providing high-quality eyeglasses for people in rural and semi-urban India. The plan show that based on census data from 2001, approximately 740 million people live in rural India. More recent estimates put the rural population at 840 million. It is estimated that approximately 35% of these people have myopic or hyperopic conditions that could be alleviated by distance or reading glasses respectively. Drishti Optical Kit and Drishti Kiosks is devoted to providing high-quality eyeglasses for people in rural and semi-urban India through a sustainable business model.

First, Drishti Optical Kit are eyeglasses, which encompasses 660 eyeglass lenses and 72 frames. The kit also includes a product display component, which is detachable from the kit. Second, Drishti Kiosk, unlike other kiosks this kiosk is portable and can be easily broken down for easy transport by transportation vehicles. The focus of these two products is to achieve where the doctors and clinics do not achieve in rural and semi-urban regions subsistence areas.

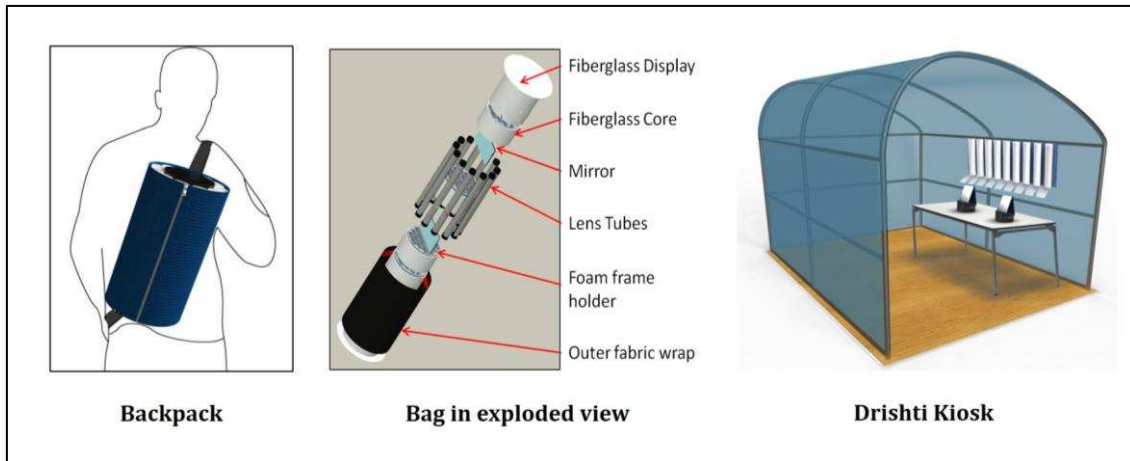


Figure 3: Drishti Optical Kit and Drishti Kiosk

Source: Business Plans.

The innovation is the availability and accessibility of eyeglasses. Drishti Optical Kit and Kiosk are innovations that optimize the entire process of taking exams and sell eyeglasses. The process becomes faster, easier, inexpensive and can be spread in areas that previously were not. Furthermore, the people in subsistence areas can have a full experience of a treatment.

This project is a disruptive innovation with bottom-up approach because it has investigated in depth the context of the subsistence marketplace and the health needs of people living in poverty which has no access to sophisticated health systems. Once this project achieves success and performs satisfactory results in subsistence marketplace, it can disrupt and threaten the conventional market for vision exams and treatments, starting with the bottom-up approach reaching in more developed markets.

Frugal innovation x bottom up

The second business plan is Msaidizi, a project which objective is to reduce diseases related to lack of sanitation. The project show us that over 87% of the Tanzanian population lacks access to “improved sanitation” as defined by the World Health Organization, resulting in 41 million people in need of improved sanitation systems. The lack of sanitation creates problem in the people welfare and causes unpleasant situations in day to day in subsistence areas. In addition, diseases that lack of sanitation can provide are associated with mortality of people in rural areas around the world.

Msaidizi toilet is designed to treat and recover waste so that it gives back to the user in a tangible way. Using the successful two-pit model of Sulabh International, Msaidizi modify and redesign a sanitation system that allows for the desiccation of waste for fertilizer (aerobic digestion) without the need for water. Msaidizi is a simple and intuitive toilets and sanitation infrastructures for people in subsistence through dynamic systems that grow with users and give back over time.

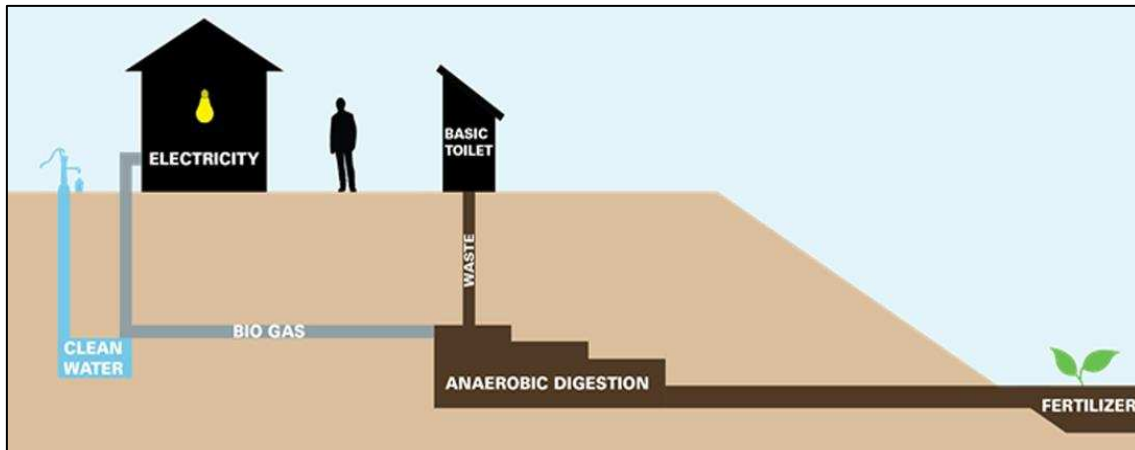


Figure 4: Msaidizi Sanitation Project

Source: Business Plans.

Msaidizi seeks (1) reduction of sanitation related illnesses by the isolation and treatment of human waste, (2) perform an economical and sustainable treatment that seeks to limit user cost and uses locally available material, (3) recovery resource that generates usable materials for the end user and promotes ownership and investment, and (4) provide a dynamic systems that allow for adaptation and growth as the user's needs change.

The main frugal innovation of Msaidizi is to offer one solution that involves two problems. The Msaidizi is a product that improves the sanitation of living areas in Africa and generate fertilizer for the agriculture and family farms. In other word, besides solve problem of sanitation, this problem also is one opportunity for entrepreneurs' farms is subsistence area. Solution two problems at the same time. Waste becoming a resource is an important element of this prototype in a context where every "resource" has to be utilized in some form where possible. In this case, finding multiple uses for the waste increases any likelihood of utilization.

Conclusion

The purpose of this paper was to discuss the five main concepts of innovation that have been studied within the context of the subsistence marketplace. In addition, we explore two approaches seeking how face problems and debate solutions in the subsistence marketplace. These elements were crossed and set up for categorization and deepening understanding.

The five concepts are often superimposed, sometimes complementary, but never contradictory. They are different theories that seek to solve the same critical problem, that is the eradication of poverty. Top-down and bottom-up approaches are forms to perform at subsistence marketplace. In other words, these five concepts are different from the two approaches discussed here. Our contribution was crossed up all element to analyses the innovation at subsistence marketplace by non-tradition views.

These concepts of innovation are directly related to high technology, large companies and scientific research at prestigious universities. Address this issue in a poverty context with no intuitive way is a difficult task for both practitioners and to researchers. In this way, some concepts of innovation have emerged (five concepts explored in this paper). Additionally, different approaches are emerging to discuss poverty issue (two approaches explored in this paper). We analyze that more top-down than bottom-up receive more attention when the assumption is innovation.

Our article is not intended to criticize the articles with top-down features, we recognize its importance since they are of academic publications that come the main guidelines of the

market. Our goal is to show that there is still researching the matter further innovation also from the perspective bottom up, especially when the involved context is that of poverty, that has huge constraints.

Finally, the business plans introduced were intended to illustrate real project proposals by students who immersed themselves in subsistence marketplace regions in India, Uganda, and Tanzania. These business plans seek to fill the gap found in the reviewed publications where no studies on disruptive innovation and frugal innovation were found within a bottom-up approach. The aim here is to encourage the development and diffusion of different types of innovation in the subsistence marketplace to provide solutions to poverty alleviation.

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