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Article

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

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Abstract

Purpose – The purpose of this paper is to explore the different concepts of innovation in the subsistence marketplace from top-down and bottom-up approaches. This study analyzes the literature on the theme and identified research gaps by constructing a framework based on approaches and innovation concepts, which can guide future research efforts. Additionally, this paper presents two case studies, which can improve the way innovation is developed and diffused in the subsistence marketplace.

Design/methodology/approach – Through a literature review, this study develops a framework by analyzing innovation concepts in the subsistence marketplace (i.e. base of the pyramid innovation, disruptive innovation, frugal innovation, reverse innovation and inclusive innovation) in light of subsistence marketplace approaches (top-down and bottom-up).

Findings – The analysis showed critical research gaps, especially a lack of studies involving disruptive and frugal innovations from a bottom-up approach. This paper also concludes that the top-down approach is more common than the bottom-up one. To fill these gaps, this study presents two business plans by illustrating disruptive innovation vs bottom-up approach and frugal innovation vs bottom-up approach.

Originality/value – The use of real business plans to illustrate proposals having an actual impact on subsistence marketplace regions sheds light on how to address these challenges. By doing so, this paper intends to fill the theoretical gap in disruptive and frugal innovations within a bottom-up approach to

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promote the development and diffusion of different types of innovation in the subsistence marketplace, and thus provide solutions to alleviate poverty.

Keywords Subsistence marketplace, BoP innovation, Disruptive innovation, Frugal innovation, Reverse innovation, Top-down and bottom-up

Paper type General review

1. Introduction

The academic debate on innovation in the subsistence marketplace and on poverty-environment issues has taken the center stage (Corsi & Di Minin, 2014; Subramaniam, Ernst, & Dubiel, 2015; Viswanathan & Venugopal, 2015; Venugopal & Viswanathan, 2017). This debate generated several articles and publications on different areas of knowledge such as business, economics, sociology, psychology, engineering, agronomy and technology. Within the management area, the subsistence marketplace also arises from different sub-areas such as marketing strategy, organizational studies, public policy and management innovation.

This diverse environment, where research and practice in the subsistence marketplace are concomitantly discussed, helps uncover different problems and needs (Nogami & Veloso, 2018). These problems result in potential proposals for innovative solutions for health, food, transportation, sales, behavior, entrepreneurship, social business and technology. Overall, these solutions involve different organizations such as private companies, public companies, NGOs, business-to-business companies, business-to-consumer companies and small and informal businesses.

This plurality demonstrates how the level of debate on the problems and solutions regarding the subsistence marketplace has evolved. Nevertheless, the science surrounding this topic cannot be considered mature enough (Viswanathan & Venugopal, 2015). We still find many methodological and theoretical misconceptions about how to solve problems of poverty-related to markets, economy, health, transportation, food and energy.

Regardless of the background of each new publication on the subsistence marketplace, we suggest that only through innovation and its many variations there will be enough progress in crafting solutions to overcome global problems associated with poverty (Brem & Wolfram, 2014; Viswanathan & Sreekumar, 2017). Therefore, we believe that the concept of innovation can be incorporated into the mindset of those tackling poverty issues in many different areas. Even in the domain of innovation, many theories addressing the subsistence marketplace have emerged such as disruptive innovation, frugal innovation, reverse innovation, inclusive innovation, the base of the pyramid (BoP) 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 presented two main approaches suitable for exploring this topic, namely, the top-down and bottom-up approaches (Viswanathan, 2017). The former is related to prescriptive guidelines from organizations to individuals, whereas the latter aims at understanding the individuals of the subsistence marketplace to make them the right protagonists.

The recent research developments on innovation and subsistence marketplaces such as those discussed above (BoP innovation, disruptive innovation, frugal innovation, reverse innovation and inclusive innovation), are numerous. However, we posited that new research opportunities can be uncovered by intersecting the top-down and bottom-up approaches, which highlights the major contribution of this article. Therefore, our primary goal was to explore the different concepts of innovation introduced in publications on the subsistence marketplace on the basis of top-down and bottom-up approaches.

Our contribution emanates from the discussion on the intersections of approaches and innovation concepts, pointing out to publications according to each theoretical condition. This intersection between theoretical approaches reveals gaps in the literature within the domains of innovation and the subsistence marketplace. Interestingly, one of our main contributions is represented by two empty cells in the table, where our findings are summarized. Our article also deepens the discussion of these two gaps. In this sense, we intended to advance the previous studies by [Viswanathan and Venugopal \(2015\)](#) and [Viswanathan \(2017\)](#).

2. Innovation in the subsistence marketplace

The process of innovation within the scope of the subsistence marketplace is very peculiar ([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 an organization must adapt its strategy to reach them. 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 the population, lack of knowledge and information and economic instability. These uncertainty drivers require different guidelines from companies operating in these markets. By focusing on a series of issues, which will affect the process of innovation, it is possible to minimize the impact of uncertainties. Extant research has focused on the following topics regarding 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 the subsistence marketplace cannot operate in the same way ([Govindarajan & Trimble, 2013](#)), thus requiring the development of different concepts of innovation. Our article deals explicitly with the central concepts of innovation found in the literature on subsistence marketplaces such as BoP innovation, disruptive innovation, frugal innovation, reverse innovation and inclusive innovation. We discussed these concepts by focusing on their strategic alignment on how to overcome the problems these uncertainties generate. In the next section, the above-mentioned five concepts are explained.

2.1 Innovation for the base of the pyramid

Based on the seminal articles by [Prahalad and Hart \(2002\)](#) and [Prahalad \(2005\)](#), the innovation for BoP was developed following specific guidelines. This concept focuses on creating awareness, access, affordability and availability (4 As) to boost the environment for innovation in emerging markets ([Anderson & Billou, 2007](#); [Prahalad, 2012](#)).

Availability means the extent to which customers can readily acquire and use a product or service ([Anderson & Billou, 2007](#)), which is related to the importance of the relationship with stakeholders to avoid disruption with product availability. Distribution channels can be fragmented or even inexistent at the bottom of the pyramid markets and the simple task of getting products to people can become a significant hurdle. Companies need to explore alternate methods of delivering their products and services to even the most isolated BoP communities ([Prahalad, 2005](#)).

Affordability is the degree to which goods and services of a given firm 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.

Accessibility translates into giving access to products and services for all people, even those living in subsistence conditions in remote locations. For instance, electrical products cannot be sold to areas without electricity. Likewise, areas without roads would be inaccessible for delivery trucks. Hence, consumers in these areas must get access to products and services they desire (Prahalad, 2012). Consequently, the emerging markets face a challenge in terms of distribution channels as a result of poor infrastructure (Anderson & Billou, 2007).

Awareness is the degree to which customers are aware of a product or service. As many BoP customers do not have access 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 alternate 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 has impacts on innovation and makes it 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 de market.

2.2 Disruptive innovation

The idea of disruptive innovation sheds light on the failure of large companies to seek innovation in traditional markets, especially when they suffer from marketing myopia and are overtaken by new entrants who launch new products based on disruptive technology (Christensen, 1997, 2013). Initially, the discussion of disruptive innovation happened in the context of technology. Still, we find some exciting connections in the context of the subsistence marketplace, especially when considering the conditions of uncertainty, level of product performance (high vs low) and demand for consumer technologies (high vs low) (Christensen & Raynor, 2003). To explain this phenomenon, the authors introduced the concept of sustaining and disruptive technologies. For sustaining technology, see Christensen (1997), Christensen and Raynor (2003) and Christensen (2013).

Disruptive technology refers to innovations for existing products and whose attributes are evaluated differently, mainly by non-traditional and underserved consumers. Disruptive innovation changes the social practices, that is, the way one lives, works and relates to each other (Christensen, 2001). In other words, it is not the technology itself that matters, but its use. Initially, these innovations have lower performance compared to the main attributes of sustaining technologies. Disruptive innovation begins with meeting a given need of less demanding people, gaining strength as it also meets other needs of the most demanding customers and sometimes even threatening large companies who are based on sustaining innovations (Corsi & Di Minin, 2014).

Disruptive innovations are primarily traded in emerging markets because their characteristics do not attract consumers of traditional markets or from higher social classes (Nogami & Veloso, 2017). Therefore, a company's marketing department has more responsibility for disruptive technologies than the technology and R&D department. Hence, the sustaining innovations rely on the ToP (top of the pyramid) approach and the disruptive innovation on the BoP one (Christensen, Johnson, & Rigby, 2002; Ray & Ray, 2011). However, to achieve profitability, the disruptive technology should be traded on a large scale with a low margin, like any other market.

2.3 Frugal innovation

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

This view shows us the phenomenon in different dimensions (Brem & Wolfram, 2014). First, frugal innovation focuses on individuals who live in poverty environments and act as co-developers of adaptive products (Zeschky et al., 2014). Second, frugal innovation refers to a broad approach for adapting product management, production and development necessary for a sufficient level of satisfaction without demanding higher levels of technology (Brem & Wolfram, 2014). Third, the resulting solutions should also meet the high-income demand (Zeschky et al., 2014).

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

Frugal innovation typically does not have sophisticated technological features, but it tends to meet basic needs at a low-cost level (Simula, Hossain, & Halme, 2015). In contrast to conventional innovations, frugal innovations refer to products developed for specific applications in resource-constrained environments (Zeschky et al., 2014). Although existing technologies are used in most cases, frugal innovations are typically created to develop new products for entirely new applications at much lower price points than the existing ones (Zeschky et al., 2014).

2.4 Reverse innovation

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

This concept emerged when the traditional path of innovation from rich to developing countries was reversed (Subramaniam et al., 2015). Once the high-income market is saturated, large companies begin to look at the subsistence marketplace with different eyes, making innovation fundamental in that market. Even with innovation not happening in the same way as in rich countries, the concept of reverse innovation has been highlighted (Govindarajan & Ramamurti, 2011; Khanna & Palepu, 2013).

Historically, reverse innovation rarely happens because one intuitively thinks of innovation as something flowing from top to down or from rich to developing countries (Govindarajan & Trimble, 2012). Therefore, an innovation created in developing countries with local technology and then exported to and adopted by developed countries seems counter-intuitive. Given this premise, the strategy of “glocalization” makes more sense (Govindarajan & Trimble, 2013). This strategy is the practice of exporting products developed in rich countries with slight modifications to fit the emerging market so that the products can be produced cheaper and with fewer attributes (Nogami, Vieira, & Veloso, 2018).

Nevertheless, the rationale 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 the emerging markets, where the customer's needs are entirely different. Thus, the importance of reverse innovation shifts from an economic to a social focus, impacting the redistribution of income, access to technology and wealth of countries and companies ([Immelt, Govindarajan & Trimble, 2009](#)). Based on the reverse innovation, developing countries can accelerate their economic growth and as a result, contribute to other significant areas such as communications, infrastructure, education, science and health.

2.5 Inclusive innovation

[Foster and Heeks \(2013b\)](#) define inclusive innovation as the inclusion of some innovative aspects focusing on groups often marginalized. This definition takes into account two topics: individuals who are marginalized and how to characterize their needs to include them in the context of innovation. Groups identified as marginalized may include women, youth, handicapped people, ethnic minorities and informal entrepreneurs ([Heeks, Foster, & Nugroho, 2014](#)). We assume that individuals in the subsistence marketplace are another example of marginalized groups.

The consumer-manufacturer relationship becomes vital when one contemplates the innovation process taking place in the low-income market, whose several characteristics point to that direction. However, this is not what has happened. Another important factor is the effect of infrastructure constraints and resource shortage, which can enhance the risk of aversive behavior and, consequently, aversion to adopting an innovation. The heterogeneity of this segment intensifies the complexity of the market. All these elements have been previously cited by different authors in different contexts and highlighted by the theory of inclusive innovation as well ([Heeks et al., 2014](#)).

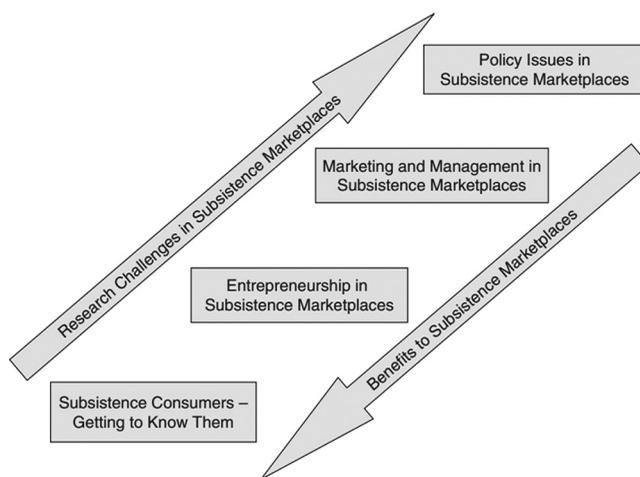
The assumptions of inclusive innovation range from the individual level to the environmental level, namely: Level 1 (intention), when it focuses on the needs of the marginalized group; Level 2 (consumption), when it is adopted and used by the marginalized group; Level 3 (impacts), when it has a positive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

These assumptions begin at the individual level and move up to the macro-environmental level, in which the inclusion of the marginalized group gradually deepens and widens for innovation. In general, each level accepts the addition of previous levels. Therefore, inclusive innovation can be related to product, service, process, organization, business model, supply chain and so on by including marginalized groups.

3. Bottom-up and top-down approaches

To understand the contrast between bottom-up and top-down approaches, we categorized the market into three levels: macro-level, mid-level and micro-level ([Viswanathan, Jung, Venugopal, Minefee, & Jung, 2014](#)). The macro-level consists of economic, governmental and global policy issues of the subsistence marketplace; the mid-level consists of marketing and management strategies in the organizational context of the subsistence marketplace; and the micro-level consists of individual behaviors of both entrepreneurs and consumers in the subsistence marketplace. [Figure 1](#) illustrates the top-down and bottom-up approaches within this perspective of three levels in the subsistence marketplace.

When decisions related to innovation within the scope of the subsistence marketplace are made by governing bodies to change how organizations work, including the behavior of



Source: Viswanathan et al. (2014)

Figure 1.
Subsistence
marketplace levels

entrepreneurs and consumers, we consider that this decision is made with a top-down approach (i.e. macro \rightarrow meso \rightarrow micro). When decisions regarding the subsistence marketplace searching innovative solutions are made from the understanding of local and individual characteristics and emerge for organizations and government, we consider that this decision is made with a bottom-up approach (i.e. micro \rightarrow meso \rightarrow macro).

3.1 Top-down approach

Problems with poverty have always been a global concern for both rich and poor economies. Nevertheless, several international associations and institutions focus on tackling these issues, which involve refugees, people affected by environmental disasters, communities with no sanitation and electricity, regions without jobs, health and education, among other infrastructure issues.

A top-down approach seeks to solve these problems by proposing prescriptive suggestions, but not always considering the real circumstances of the subsistence marketplace. This issue resides in governments and top-level executives who rely on strategies already used in developed countries to solve poverty problems. This strategy is not efficient because these solutions are rarely 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 have short-term advantages, but in the long run, this is not sustainable and poor people will continue to be poor and dependent on the decisions of the big players in the market. Creating marketing strategies to make money from poor people 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 these big market players aware of what happens in the subsistence marketplace. Therefore, the bottom-up approach for solving problems emerges from the individual's local context to provide insight for making organizational (meso-level) and governmental (macro-level) optimal decisions.

3.2 Bottom-up approach

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

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

The bottom-up approach presents itself as an alternate perspective, unlike the top-down approach, as it emphasizes the building of knowledge on the individual to create better innovative solutions locally and which can be expanded. Therefore, this phenomenon takes place in small businesses rather than in large corporations. Thus, concerns about job generation, especially regarding the encouragement of entrepreneurship, tend to be more critical compared to marketing strategies (Viswanathan, 2016). This approach focuses on the eradication of poverty and improvement of the quality of life, meaning that businesses can go beyond profits and focus on social impact as well.

The bottom-up approach seeks to understand the subsistence marketplaces in depth by examining the behaviors of consumers, sellers, entrepreneurs and the marketplace at an individual level. This contributes to strategies for macro-level economic and meso-level business approaches, providing a deeper behavioral understanding to guide the exchange transactions in the marketplace (Viswanathan, 2016). Behavioral studies are central to the further development of innovative solutions in the subsistence marketplace. A detailed understanding at this level is essential for developing effective business models and technological innovations to alleviate poverty.

The policy implications arising from this analysis are broad. In general, the marketing (and market) perspective is uniquely aimed at providing micro-level insights on the marketplace to inform higher-level policy decisions, especially regarding what subsistence consumer and entrepreneurial behavior are in the context of subsistence marketplaces. At the meso-level, policy issues are related to commercial and social enterprises in the subsistence marketplaces, including the scenario of public-private partnerships. At the micro-level, policy issues include encouraging entrepreneurship and empowering literate consumers (Viswanathan & Venugopal, 2015).

Psychological and social knowledge at the micro-level provides a variety of insights, which have meso- and macro-level implications. This view follows the subsistence marketplace approach because of its bottom-up orientation aimed at generating a better understanding of the individuals, communities and marketplaces in the socio-cultural contexts of poverty (Viswanathan, 2016).

It is possible to compare a bottom-up approach to a top-down one in different forms. One of the most impactful ways would be to stop looking for standardized solution concepts already used in traditional markets (top-down) to allow understanding the subsistence marketplace through on-site experiences of poverty to reduce misconceptions (bottom-up). In contrast to the top-down approach, the main advantage of the bottom-up approach is that it is immersive in terms of understanding and learning and emergent in terms of solutions.

With the bottom-up approach, plural research is needed to know how an understanding at the micro-level can provide rich insights and policy-making on a more aggregate basis (Viswanathan & Venugopal, 2015). Although the bottom-up approach addresses gaps in the

literature and the market, it is the responsibility of researchers to illustrate how this approach and its specific insights are related to higher-level decision-making.

4. Analysis of innovation in subsistence marketplace under multiple concepts and approaches

To summarize our discussion, we presented the relationship between five innovation concepts in the subsistence marketplace (i.e. BoP innovation, disruptive innovation, frugal innovation, reverse innovation and inclusive innovation) and two subsistence marketplace approaches (i.e. top-down and bottom-up). Additionally, we included a sample of articles (in *italic*) representing the main idea in each cell to shed light on the theoretical categories proposed. The aim of the research was not to conduct a bibliometric study but to present the research gaps disregarded by academia. To do so, we selected some illustrative examples from a pool of articles addressing the five types of innovation and both approaches.

Our theoretical analysis pointed out that there are some critical research gaps. In fact, there is a lack of studies on disruptive and frugal innovations by using the bottom-up approach. Therefore, we can also conclude that the top-down approach is more common than the bottom-up one in terms of research on subsistence marketplace and innovation.

This analysis showed that there are opportunities to investigate both disruptive and frugal innovations from the bottom-up approach. In other words, poverty problems related to markets, economy, health, transportation, food and energy are discussed more from a macro- and meso-perspective than from a micro perspective.

In cases of disruptive innovation, for example, [Hang, Chen and Subramian \(2010\)](#) explores the wind energy market without mentioning what happens from the bottom-up approach as only macro-environmental issues were addressed. This is also observed in a study by [Christensen \(1997\)](#), who investigated the reasons why large companies go bankrupt as they are neither small nor suffer from the subsistence marketplace. With regard to frugal innovation, for example, [Brem and Ivens \(2013\)](#) discuss the sustainability management and market performance of a company based on meso-environmental factors, that is, by focusing on the sustainability of resources used in value creation, the sustainability of actual value creation and sustainability of the outcomes of value creation. [Altmam and Engberg \(2016\)](#) propose an alternate approach for high-tech companies based on three frugal innovation projects of a Swedish medical device manufacturer involving the development of new products in a subsidiary (home-based development). Although their study seems a bottom-up one, no people in the subsistence marketplace were interviewed, only professionals working in the subsidiary. Therefore, a better and more effective insight into creating innovations (all types) could be generated in the context of the subsistence marketplace.

Our main point is that all those involved with subsistence marketplaces should try to understand the context of poverty from the point of view of those living in these conditions. This would boost the quality of decisions made in boardrooms and universities and would result in better subsistence marketplace solutions. This can happen for several reasons and having access to places with poor infrastructure is one of them. The effort to bring academics and professionals to the epicenter of poverty is no easy task but surely will bring exciting and prolific results. Nevertheless, taking researchers and executives from the comfort of the laboratories in universities or business rooms to extreme conditions of poverty does not seem to be a simple task.

5. Filling the gap – business plans and case studies

To fill the two empty cells in [Table 1](#) (gaps), we presented two business plans in which one illustrates disruptive innovation vs bottom-up approach and the other illustrates frugal innovation vs bottom-up approach. We selected these two business plans from a pool of

Approach	BoP innovation	Disruptive innovation	Frugal innovation	Reverse innovation	Inclusive innovation
Top-down	Innovation in SM with focus on organizations	Disruptive innovation in SM with focus on organizations	Frugal innovation in SM with a focus on organizations	Reverse innovation in SM with a focus on organizations	Inclusive innovation in SM with a focus on organizations
	Anderson and Markides (2007) and Prahalad (2005)	Christensen (1997) and Hang <i>et al.</i> (2010)	Brem and Ivens (2013) and Altmann and Engberg (2016)	Govindarajan and Trimble (2012) and Corsi, Di Minin and Piccaluga (2014)	Foster and Heeks (2013a) and George, McGahan and Prabhu (2012)
Bottom-up	Innovation in SM with focus on individuals	Disruptive innovation in SM with a focus on individuals	Frugal innovation in SM with a focus on individuals	Reverse innovation in SM with a focus on individuals	Inclusive innovation in SM with a focus on individuals
	Nakata & Weidner, Viswanathan and Sridharan (2012)	Gap	Gap	Govindarajan and Ramamurti (2011) and Govindarajan and Trimble (2013)	Foster and Heeks (2013b) and Foster and Heeks (2013c)

Note: SM: subsistence marketplace

Table 1. Categorization of innovation concepts

student projects developed between 2011 and 2015 in a university from the Midwest (USA). Multidisciplinary student teams developed these projects within the scope of a 1-year undergraduate course. Based on these insights, testable research propositions were developed as a platform for future theory-testing empirical research, which has implications for the research and practice on product development.

For more information on subsistence marketplace projects and immersion courses on this theme, see Viswanathan, Yassine & Clarke (2011) and Viswanathan and Sridharan (2012). The choice of these two projects was based on their capacity of filling the literature gaps, as can be seen in Table 1.

5.1 Disruptive innovation x bottom-up

Drishti is the first business plan with a project focused on providing high-quality eyeglasses for people in rural and semi-urban areas of India. Based on census data from 2001, there are approximately 740 million people living in rural India and more recent estimates point to a rural population of 840 million. About 35% of these people suffer from myopia or hypermetropia, which could be alleviated with distance and reading glasses, respectively. Drishti Optical Kit and Drishti Kiosks are devoted to providing high-quality eyeglasses to these people through a sustainable business model.

The Drishti Optical Kit consists of 660 eyeglasses lenses and 72 frames, including a product display component, which is detachable from the kit. The Drishti Kiosk, unlike other kiosks, is portable and can be easily disassembled for easy transport. The focus of these two products is to reach places where doctors and clinics are not normally available such as in rural and semi-urban regions of subsistence areas.

The innovation is in the availability and accessibility of eyeglasses. Drishti Optical Kit and Kiosk are innovations, which optimize the entire process of examination and selling of

eyeglasses, making it faster, easier, inexpensive and enabling unserved areas to be reached. Furthermore, subsistence consumers can experience an ophthalmological treatment on another level, far from what they are used to.

All of this can be obtained by only one health professional specialized in eye health, a backpack containing the necessary diagnostic equipment and portable tools to assemble the glasses required for each patient. The service care can be performed in any room, commercial establishment or public environment with adequate protection.

This project is a disruptive innovation with a bottom-up approach because it was developed with an in-depth investigation into the context of the subsistence marketplace and the health-related needs of poor people, who have no access to sophisticated health systems. However, when this project achieves success and provides satisfactory results in the subsistence marketplace, it can disrupt and threaten the conventional market of eye examinations and treatments by starting with the bottom-up approach toward more developed markets. The complete business plan can be found in [Gill et al. \(2012\)](#).

5.2 Frugal innovation x bottom-up

Msaidizi is the second business plan with a project aimed at reducing diseases related to lack of sanitation. The project shows 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 affects the welfare of people and causes daily unpleasant situations in the subsistence areas. In addition, diseases resulting from the lack of sanitation are associated with mortality in people living in rural areas around the world.

The Msaidizi toilet is designed to treat and recover the waste in a tangible way for the user. By using the successful two-pit model of Sulabh International, Msaidizi modified and redesigned a sanitation system allowing desiccation of the waste (aerobic digestion) for being used as fertilizer without the need for water. Msaidizi provides simple and intuitive toilets and sanitation infrastructures for subsistence people through dynamic systems which grow with users and give back over time ([Figure 2](#)).

Msaidizi focused on several aspects of sanitation such as reduction of sanitation-related diseases by isolating and treating human waste, provision of economical and sustainable

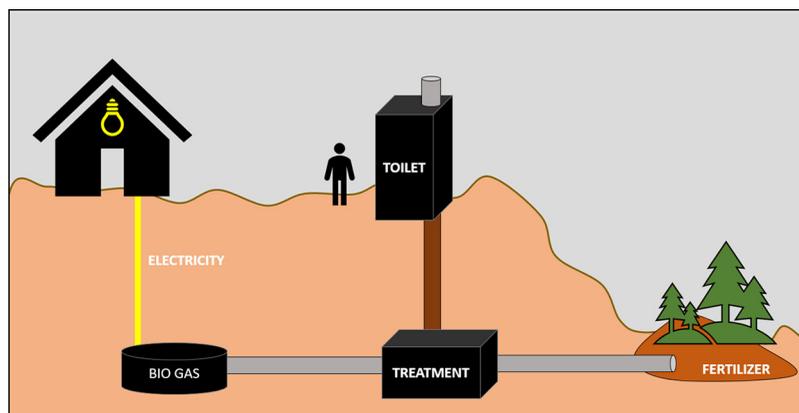


Figure 2.
Msaidizi sanitation
project

Source: Created based on Ogunnubi (2012)

treatment aimed at reducing the cost to the user and using locally available material, recovery resource to generate usable materials for the end-user and to promote ownership and investment and provision of dynamic systems allowing adaptation and growth as the user's needs change.

The main frugal innovation of Msaidizi is to offer one solution for two problems by means of a product, which improves the sanitation in subsistence areas in Africa and generates fertilizers for agriculture and farming. In other words, besides solving the problem of sanitation, the product also allows local farming entrepreneurs to have a new opportunity, thus solving two problems at the same time. Transforming waste into a resource is an essential element of this prototype in a context where every resource should be used. In this case, finding multiple uses for waste increases the likelihood of its utilization. The complete business plan can be found in Ogunnubi (2012).

6. Conclusion

The main goal of this paper was to discuss the concepts of innovation commonly studied within the context of the subsistence marketplace. Besides, we explored two approaches relating to the quest for solving problems and creating solutions for those people living in the subsistence marketplace. We compared and cross-analyzed these constructs to uncover research gaps, which could further our understanding of the theme.

The five concepts are often superimposed and sometimes complementary, but never in opposition to each other. They are different theories aimed at solving the same fundamental problem, which is the eradication of poverty. Top-down and bottom-up approaches are methods to be used in the subsistence marketplace. In other words, these five concepts are different from the two approaches discussed here. Therefore, our contribution was to present a non-traditional analysis of how these concepts are related.

Typically, innovation is directly related to large technology companies or scientific research in prestigious universities. By addressing this issue in a poverty context, we showed that practitioners and academics have a difficult task ahead if they want to focus on this issue. When constructing this discussion, five concepts of innovation were found. Additionally, we also identified that there are different approaches that can be used to discuss the poverty issue. We detected that top-down approaches receive more attention than bottom-up when considering innovation-related themes.

We do not intend to criticize studies on top-down approaches as we recognize their importance in addressing the issue of poverty and providing operational guidelines to several organizations. We posit that complementary research focusing on the bottom-up perspective should be performed, especially when the context involves the major limitations related to poverty.

Not only bottom-up studies are required for future publications but also new goods and services provided by large and small businesses should be addressed. Marketing managers often make decisions from the comfort of their offices based on outsourced market research reports to develop new business models, goods and services. Visiting urban and rural areas to experience the uncertainties and difficulties of those people facing poverty issues are essential tasks for those working in the companies.

Finally, the business plans presented here helped us to illustrate real project proposals based on the bottom-up approach, bringing exciting results. These researchers went to subsistence marketplace regions in India, Uganda and Tanzania. Business plans seek to fill the gap observed in the literature review as no studies on disruptive and frugal innovations were found in the bottom-up context. 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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