

## **SUBSISTENCE CONSUMERS AS LEAD USERS: LIFE TRANSFORMING PRODUCTS AND SERVICES FROM THE BOTTOM OF THE PYRAMID**

*Consumidores de subsistência como usuários líderes:  
vida transformando produtos e serviços a partir da base da pirâmide*

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### **ABSTRACT**

This research uses four exemplars to illustrate the characteristics of subsistence consumer lead users. Its primary objective is to help companies that are seeking marketing success in emerging markets to better harness the innovative talents of their target consumers. Lead users are typically recognized for facing serious needs, experimenting with solutions, and being more focused on beneficial outcomes than commercial successes. This research finds that subsistence consumer lead users share these characteristics, but that they are also distinguishable for never-ceasing and sometimes compulsive experimentation, on account of materials' shortages, that often compromises past successes. They are also distinctively recognizable for relying on the collective thinking and memory of their social network to track progress towards problem solutions.

**KEYWORDS:** Lead users, subsistence consumers, bottom of the pyramid.

### **RESUMO**

Essa pesquisa usa quatro casos exemplares para ilustrar as características do consumo de subsistência de usuários líderes. Esse primeiro objetivo é para ajudar as companhias que estão procurando o marketing de sucesso em mercados emergentes para aproveitar melhor os talentos inovadores de seus públicos alvo. Usuários líderes geralmente reconhecidos por encarar sérias necessidades, experimentando soluções, sendo mais focado no benefício dos resultados do que no sucesso comercial. Essa pesquisa encontra que o consumo de subsistência de usuários líderes compartilha essas características, mas que também são distinguíveis por nunca cessar e as vezes pela experimentação compulsiva, devido à escassez de materiais, que muitas vezes compromete o sucesso passado. Eles também são distintamente reconhecíveis por confiar no pensamento coletivo e memória de sua rede social para acompanhar o progresso em direção às soluções de problemas

**PALAVRAS-CHAVE:** Usuários líderes, consumo de subsistência, base da pirâmide.

## 1 Why Find Subsistence Consumer Lead Users?

The idea of subsistence consumers as innovators who can give rise to life-transforming products and services (i.e., the Jaipur Foot), has been argued repeatedly (e.g., Hart 2005, Prahalad and Hammond 2002, Prahalad 2005, Rosa and Viswanathan 2007). Nevertheless, companies and institutions have been slow to enlist their talents and abilities to develop products and services for subsistence markets. With some exceptions (e.g., Hindustan Lever, Vodacom, Casa Bahia, CEMEX), companies have achieved less-than-stellar results from multi-million-dollar product and service initiatives in subsistence marketplaces, with a common complaint being that their product developers do not seem to understand how to work with subsistence partners (e.g., Simanis, Hart, and Duke 2008). In contrast, successful companies involve subsistence consumers throughout the development process.

Undoubtedly, some companies do not involve subsistence consumers in product development because of not seeing their potential. Such companies hold a narrow view of subsistence consumers – as needy and incapable. Other companies recognize that subsistence consumers can be valued partners, but nevertheless struggle with identifying the subsistence consumer who are most likely to engender breakthrough ideas – what we call subsistence consumer lead users (von Hippel 1988; 2005). Helping companies to better identify and engage subsistence consumer lead users is the primary objective of this research.

## 2 Subsistence Consumers as Lead Users: Profiles and Search

Reliance on lead users for break through innovation has a 30-year history (e.g., von Hippel 1988, von Hippel, Thomke & Sonnack 1999, von Hippel 2005). Past lead user studies focused on applied science and technology experts (e.g., radiologists computer scientists, surgeons) who were vexed by the problems and limitations of cutting edge commercially-available products and services in their professional domains; and who took on the task of finding their own solutions. In general, such lead users face serious and significant needs (i.e., life threatening situations) and have sufficient knowledge and resources to experiment with possible solutions; and they are focused on the beneficial outcomes that their solutions produce instead of their solutions' commercial value. Initially lead users were believed rare (von Hippel, Thomke, & Sonnack 1999), but it is now argued that they may represent up to 40% of all customers across industries (von Hippel 2005) and that they can contribute significantly to product category expansion and improvement in some markets (e.g., motorcycles as discussed by Rosa, Judson, and Porac 2005).

The prevalence of lead users notwithstanding, their existence and influence in consumer segments has been investigated sparsely and primarily retrospectively through the related lenses of sociology of technology (e.g., Bijker, Hughes, and Pinch 1987; Bijker 1995; Golder and Tellis 1993) and markets' socio-cognitive underpinnings (Rosa et al. 1999; Rosa, Judson, and Porac 2005). Moreover, the limited lead user research in developed markets has primarily focused on industrial and high technology sectors. In spite of the known innovativeness of subsistence consumers (Prahalad 2005; Rosa and Viswanathan 2007), there has been no systemic investigations of lead user innovators in subsistence markets. This investigation suggests that subsistence consumers with lead user potential exist, and that they share some identifiable characteristics.

Two ethnographic investigations focused on subsistence consumer innovativeness in a large Latin American city and involving thirty informants uncovered several consumer innovators who are driven by vexing needs and the absence of viable commercial solutions,

and whose primary focus was to solve a problem and deliver valuable outcomes. Four such subsistence consumer lead users and their innovative creations are described below. Their names are disguised.

### 3 Subsistence Consumer Lead Users

#### 3.1 Antonio: Gold Stucco



**Figure 1** - Antonio's Finished Handiwork: 14K Gold Stucco in a High-End Home Bathroom.

Antonio is a stucco subcontractor, one of thousands of semi-skilled laborers in Latin America's residential construction sector. He earns between \$800-1,000 per year, and claims to have a high school diploma but has difficulty writing his name and address. Nevertheless, Antonio is highly sought by high-end home builders because of the gold-based stucco finishes that he has developed. Through trial and error, Antonio identified a process for keeping gold dust in suspension in stucco slurry that involves plant-based oils, solvents, and the judicious application of heat during the mixing process. The gold remaining in suspension results in consistent and quick stucco application and leads to a smooth and durable finish. Because both the gold slurry suspension and smooth durable finish are difficult to accomplish in high-altitude humid environments, commercial paint and stucco manufacturers have been trying to reverse engineer Antonio's recipe with his assistance. It is likely that Antonio's invention will soon be patented and mass produced, and that it will be adapted to applications beyond high-end home construction. Antonio is willingly helping commercial producers because he would prefer to purchase ready-made stucco slurry and is not interested in the process' commercial value.

### 3.2 Roberto: Leather Cleaner and Restorer



**Figure 2** - Roberto's Cleaner Packaged for Delivery and Product Effectiveness Comparison: the shinier chair on the left has been treated.

Roberto is an unemployed male in his 40s, an all-too-common demographic in Latin America. He was guarded during the conversation, and did not share details about his income and highest-achieved educational level, making vague and seemingly inflated claims instead. In past years he worked as a book keeper, and was displaced by computerized systems. He admitted to completing high school, but his literacy and numeracy skills are rudimentary. His wife holds a government job. Roberto purchases chemicals wholesale and experiments with producing a variety of household cleaners in his kitchen that he sells door-to-door in poor neighborhoods. Because he cannot keep accurate records of previously successful cleaner formulations, his product line changes as new batches are produced. The leather furniture cleaner and restorer that he currently sells started its productive life as a laundry detergent additive. Through trial and error Roberto found that the additive works on leather (and no longer optimally as a laundry detergent additive because he changed the recipe). The product is effective at removing grime and smoothing imperfections in leather artifacts and furniture without staining the apparel of people who use the artifacts and furniture. Roberto's customers are happy and have asked that he not change the formulation again. As in the case of Antonio, some companies are trying to reverse engineer Roberto's recipe, and he is assisting the companies.

### 3.3 Sara and Carlos: Avoiding Carpal Tunnel Injuries



**Figure 3** - Bichiroque Illustrations: electric bichiroque on the left, manual bichiroque on the right.

Sara and Carlos are in their 20s and students at a trade school, having dropped out of high school a few years ago. They hold fulltime jobs in construction, she as a safety inspector because of family connections and he as an errand runner. Sara's father and brothers also work construction, which makes her sensitive to the repeated motion injuries (i.e., carpal tunnel syndrome) caused by the use of a bichiroque (right above) – a hand tool used to bind steel rebar together prior to concrete pouring. The bichiroque is used by hooking multiple strands of wire to the tool and hand-twisting them. The repetitive circular motion causes injuries, and Sara and Carlos developed a battery-powered bichiroque that eliminates the circular twisting motion (left above). The design is set apart by high-torque motor and gearing that can generate the twisting force required to tighten the wires in a package sold for less than \$6. It compares favorably with cordless power tools that cost more than \$50. Because of low cost and ease of repair, the tool has been adopted informally by workers at some construction sites.



### 3.4 Isidro: Lamps and Foam Cutters



**Figure 4** - Isidro's Creations: decorative lamp from wood scraps on the left, electric Styrofoam cutter on the right.

Isidro is around 30-years old and has an eighth grade education. He is a hired farm hand, owns some farm animals, and earns around \$500 per year. He lives in a 400 sq. ft. home with his wife and son. Although poor, the family enjoys decorating the home and giving gifts. They also want their son to succeed at the local public school and help him complete school projects that compare favorably with those of affluent classmates. The lamp (left above) is constructed from discarded plastic sheeting and balsa wood cutouts for 3D models. Isidro made it to decorate his home because his in-laws were coming to visit. He has made 5-6 more lamps since then; one for the in-laws and others sold for \$3-5 each. The variable-power Styrofoam cutter (right above) was constructed to help his son complete a school project. It uses a discarded cell phone case, bicycle spokes, and a toy train power source. The device proved popular among Isidro's neighbors, leading him to assemble additional units which he gave away. The Styrofoam cutter was copied by a hobby supply retailer in Isidro's home city, and sells for \$20.

### 4 Similarities and Differences

As mentioned earlier, the subsistence consumer lead users identified by the research share characteristics with lead users documented by Von Hippel (1988, 2005). Like the physicians and scientists in Von Hippel's research, subsistence consumer lead users face significant and enduring needs, be it for rent and food money, for health and safety where medical care can be hard to come by, or for family stability. Moreover, they are more interested in benefits from their innovations (satisfied home owners, clean leather, child doing well in school, happy in-laws) than in the technologies they develop to achieve these benefits. In addition, they share their innovations freely, even with people who are trying to

commercialize them. Pride in their innovations, and a focus on benefits from those innovations, is prevalent.

Differences between subsistence consumer lead users and those in developed markets can also be found. Subsistence consumer lead users are for the most part uneducated. They cannot be identified through university degrees or high levels of science and technology expertise, and their innovations are seldom known outside their small circle of family, friends, and the occasional customer. They are in contrast highly skilled in subsistence survival, living with minimal resources and in less-than-ideal conditions, making due with whatever is available, and overcoming educational deficiencies. Of great importance, they offset low education levels and limited economic resources by experimenting ceaselessly.

Another difference is in their use of social networking. Because low numeracy and literacy skills makes it difficult for subsistence consumer lead users to accurately document what went into successful designs and formulations, they rely on their own memory, and that of others, to replicate their successes. Without exception, the subsistence consumer lead users identified in this project share incessantly with family and friends about recent experiments and their results; and draw on their collective recollection of past innovations when producing new stock becomes necessary. In effect, they intuitively tap the collective memory of their social network in pursuit of consistency in their production process. Likewise, when new batches or artifacts yield unexpected results, they talk about those outcomes with friends and family as well, always counting on the emergent shared understanding to guide future efforts. This last characteristic of subsistence consumer lead users – reliance of collective memory and conversation through production cycles – makes it difficult for companies to capture and capitalize on subsistence consumer lead user creations. Replicating Antonio's gold stucco in a paint and finishes laboratory, for example, has proved elusive even with Antonio's help because his wife and brother are not there to help with the conversation that typically accompanies the production of gold stucco in his backyard. Companies who wish to partner with subsistence consumer lead users to develop new products need to replicate the social environments that accompany production and innovation along with the physical environments.

One additional noteworthy difference between subsistence consumer lead users and more traditional ones is in the sheer volume of innovative artifacts and formulations that can arise from a single innovator such as Antonio or Isidro. Large numbers of innovations can arise from the experimentation of even a single subsistence consumer lead user because they do not stop innovating when a problem solution is identified. They may want to stop, but a dearth of documentation and reliance on collective memory means that problems and the need to solve them will reemerge for most of them as soon as a currently effective solution breaks down or is used up. Roberto's formulation for leather cleaner and restorer, for example, changes between batches – even to the point that repeat customers complain about the variability. Similarly, Antonio's gold stucco does not yield consistent application and finish characteristics from batch to batch. In the world of subsistence consumer lead users, there is little replication of past successes, and there is never a moment in time where the innovator can claim enduring success. Out of necessity, they innovate and share continually, and can be a source of long streams of new products and services for commercial partners who can work with them.

## 5 Summary Comments

With over 4 billion subsistence consumers worldwide, it seems plausible that subsistence consumer lead users similar to those uncovered by this research abound in markets across Africa, Asia, and Latin America – all areas where large commercial

enterprises are seeking local partners to reach poor consumers. Also plausible is that life-transforming products and services are being developed, and unfortunately not reaching more than a small circle of friends and family and only for a short time. As with early investigations of lead users in developed markets, there is a need for descriptive inquiry into lead user phenomena in subsistence markets phenomenon, with confidence that as research progresses, accuracy of lead user profiles, specificity of questions being explored, and valuable theoretical and operational insights will increase.

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