connecting rural India to clean water

The Business Plan
Acara Challenge 2015
University of Minnesota

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Executive Summary

We are a group of interdisciplinary graduate and undergraduate students from the University of Minnesota who aim to become marketing experts in rural India by understanding customers’ social networks, information needs and purchasing behavior, so that we can effectively bring safe water technologies to areas in need. We use science based marketing techniques and behavior change methodologies to increase the adoption rates of purified water technologies in rural India.

Small and mid-sized water purification companies are often technology focused, leaving marketing as an afterthought within the organization or relying on unequipped NGOs. As an organization, we work closely with water purification companies from ideation to post-assessment with the goal of reducing disease from untreated water consumption. As a pilot project, we seek to partner with a water purification company, Spring Health, to increase the adoption rates of their chlorination device in rural Orissa.

While safe water technologies are available throughout much of rural India, the majority continue to drink unsafe water. Ripple uses strategic marketing to target the primary reasons rural Indians continue to drink unsafe water; namely, the lack of awareness that their water source is contaminated, the lack of awareness of purified water options, and the perception that purified water is expensive.

Our company will expand through a “paraskilling” approach – simplifying and reengineering key processes, enabling them to be performed by low-skilled workers – to implement replicable, cost-effective marketing campaigns. By increasing the adoption rates of water purification technologies throughout rural India, Ripple will reduce the health and economic burden of unsafe water consumption. Within 5 years, we seek to connect over 100,000 rural villagers with safe water, preventing up to 10,000 premature deaths and reducing the burdens of disease.
Problem Statement

According to the World Health Organization, access to safe drinking water is essential to health, a basic human right and a component of effective policy for health protection (WHO, 2011). However, many people around the world, and most commonly in developing countries, still do not have access to this basic human right.

India is a densely populated country. Over 60 percent of the inhabitants of India, or roughly 700 million people, live in rural villages (WaterAid, 2014). Throughout the majority of the country, water is plentiful. In addition to the many dense river systems, India receives high amounts of precipitation mainly due to the southwest monsoon, which accounts for 75 percent of the annual rainfall (Bhardwaj, 2005). However, due to poor sanitation and waste management practices, much of India’s water is unfit for drinking. Moreover, around 70 percent of India’s groundwater is contaminated from naturally occurring arsenic and fluoride. Despite the plentiful sources of water, rampant contamination leads to over 80 percent of the country’s rural population drinking unsafe water, ultimately creating a burden of preventable disease and death.

Approximately 37.7 million Indians are affected by waterborne diseases annually, causing 1.5 million deaths of children under 5. Approximately 73 million working days are lost due to waterborne disease each year, resulting in an estimated economic burden of $500 million per year (Khurana et al, 2012). However, drinking water from improved sources is available to a big proportion of the population, suggesting that these statistics can be reduced through targeted schemes.

Despite the wide variety of treatment devices available in the Indian market, adoption rates by rural Indian communities are not high enough to sustain a good market for those types of devices. This is a problem for both the manufacturers – those failing to increase the demand for their products, leading their enterprises to fail to grow – and also for the people who are suffering ill health effects caused by drinking contaminated water. There is a clear disconnect between people with access to safe water and people who are actually drinking that water.

Rural populations tended not to be attractive to marketers due to the lack of acquisition power associated to those populations. Further, weak sales and a lack distribution networks in rural areas make social marketing penetration a more complicated task. For instance, some rural areas lack the geographical and technological infrastructure necessary for the delivery of an adequate marketing campaign and the distribution of new technologies.

The low literacy and education levels that is prevalent in most of the rural areas represent another difficulty. Campaigns are mostly design in English and they are not all the time supported by behavioral change theories; theories that allow for a more specific and personalized intervention designed for specific populations. Therefore, social marketing
informed by behavioral change theories is much needed. That would allow for the design of efficient marketing campaigns design to address the special perceived barriers and cues to action associated to the adoption of a specific technology in a specific rural community.

It is no longer accurate to claim that much of rural India lacks access to safe water. Numerous recent studies have identified three main causes that keep rural Indians drinking unsafe water:

· Perception that safe water is too costly
· Lack of awareness of what contaminants are in their water sources
· Lack of awareness of what water purification products are available to them

An innovative approach is necessary to increase the adoption rates of water purification products to reduce the health and economic burden of unsafe water consumption.

### Business Overview

Ripple is a socially conscious marketing agency that aims to help companies in the water purification sector promote their products in rural communities. Until recently, rural markets in India were not on the radars of purification companies, predominantly due to the prevalence of low income consumers in rural pockets coupled with weak sales and distribution networks in these areas. Our unique approach to reaching rural customers benefits those who are drinking contaminated water and suffering ill health effects as a result. We combine recommendations from experts in "base of the pyramid" (BOP) markets with behavior change theories derived from various social science fields, primarily in public health. This blending of disciplines allows Ripple to create specialized, customer-focused marketing campaigns that cater to a targeted market segment’s wants, needs, income level, literacy, and beliefs about the relationship between health and water.

Ripple aims to increase revenue for water purification, testing, and distribution companies. Many of these companies do not have the capacity to market their products or services, be it time, financial, or personnel constraints. However, any activity which can increase sales would interest a for-profit business (more information in “Risks & Assumptions”).

Ripple’s starting point when developing a marketing campaign is to learn about the potential customer. In the article “Marketing Channel Strategies in Rural Emerging Markets: Unlocking Business Potential,” Benjamin Neuwirth gives advice based on his extensive research on, and experience in, rural markets. It is important to know the customer’s income level and pattern; i.e. if they are a seasonal farmer, they may have sporadic income. Prices or pricing structures that accommodate this type of income could increase a business’s sales to such a customer. Additionally, Neuwirth stresses the importance of trust in rural consumerism. Newer or less established companies may benefit from “piggybacking” on established companies or NGOs in order to more easily earn consumers’ trust (Neuwirth, 2012). A third piece of information about potential customers that Neuwirth discusses is education level, specifically in regards the product or
service that is being sold. More on these customer activation strategies can be found in Appendix A.

The three factors we aim to understand about potential customers as introduced by Neuwirth (income level and pattern, brand trust, and education level) bridge our understanding of the potential customer from a marketing perspective to a public health perspective, as health-based interventions should be based on a community's current knowledge and beliefs. Here we begin to use the Health Belief Model (HBM) (Appendix B), one of the aforementioned behavior change theories. The HBM attempts to predict health-related behavior in terms of certain belief patterns (Hochbaum, 1952). The health behavior Ripple aims to predict is the behavior of choosing a source from which to obtain drinking water. By understanding the beliefs and behavioral patterns of people who may be drinking contaminated water, we can begin to understand what an effective intervention needs to involve. For example, part of the HBM examines an individual’s perceptions on how serious a disease is and how likely they are to get it. It is important to know whether or not people in a community believe that their water is an issue for them.

The next step is to inform the consumer about waterborne illnesses. This is known as “education” from a public health perspective and “latent need discovery” from a marketing perspective. Essentially, they contain the same activities -- this key stage helps prepare a market sector to be buyers of a product. Ripple will use survey, qualitative interview data, and information from trusted community partners to determine the educational needs of the population. We will then determine the education gaps in the community and develop educational materials based on the specific information that they need in order to make wise decisions about their water. This could range from misperceptions of the types of contaminants that can be in “clear” (sediment-free) water to types of purification technologies that are available in their area, along with the corresponding price. By doing so, we will achieve the double goal of creating better health knowledge and creating an opening for appropriately priced purification products.

Another influence on human behavior that the Health Belief Model takes into account is self-efficacy, which is a person’s belief about whether or not they would be able to effectively reduce their chances of becoming ill with a disease. Ripple aims to increase the potential customers’ self-efficacy so they are motivated to purchase a product or service believed to improve their health. This self-efficacy training could take several forms, but the best practice, as identified by Neuwirth, is to harness and build on the power of existing groups in the community. Neuwirth describes an example of a company that partners with women’s self-help groups and uses a microfinancing model in which the women who already know each other well can purchase an item together. This would be a good model for Ripple to use if we are marketing for a product that is out of the rural poor’s price range. Being able to purchase something and pay for it collectively empowers the women to make positive changes in their family’s health, which may have felt impossible to them before. Additionally, the small community that buys together can be an example for other close-knit groups in the area who may also benefit from making a group purchase. Here we are able to increase a health-related goal (self-efficacy) and prepare people to purchase the products that we are promoting.
In addition to the small communities that potential customers are involved in, Ripple also aims to learn about the broader social environments in which consumers live. By using the Social Ecological Model (Appendix C), another behavior change theory, Ripple identifies the intrapersonal, interpersonal, institutional, community, and public policy factors that influence a person’s health behavior. Each level of this model is critically important. Ripple aims to operate within the social and cultural norms of a community without attempting to change the society’s values. By learning what is important to the customer through all of the methods mentioned herein we will be able to create effective targeted marketing initiatives that address the consumer’s needs. This creates a unique path to ownership of improved water purification technologies for people living in rural India.

Building on the idea of using existing networks and resources, Ripple develops educational materials unique to a locality’s needs and distributes it using a paraskilling model. Paraskilling is the “reengineering of complex services and processes into a set of simple standardized tasks that can be undertaken by workers without specialized qualification” (Acara Institute 2011). Ripple is able to reach more people more cost-effectively by employing local people to teach the material that is custom created for their village. This enhances not only Ripple’s potential reach but also improves local people’s self-efficacy (“if my neighbor learned enough about this topic to teach it to people, surely I can learn about it, too”). Currently, the Ripple team is focused on becoming experts in the above behavior change methodologies, public health interventions, unique marketing channels that can be used in rural India, and paraskilling. This will allow the team to become the development end of the paraskilling model we hope to employ. Once materials are developed we will move into the community we have been tasked to market to and organize local people around the goal of disseminating the information to their neighbors. Leaders and community members who are perceived to be knowledgeable play an important role as information providers and advisors.

In addition to partnering with local leaders and employing local educators to be a part of the paraskilling model, Ripple will also employ more traditional media channels including road shows and exhibitions, vibrant logo or symbol based promotional materials, and radio advertisements.

Ripple is uniquely ambitious in its willingness to harness local power and abilities, but this ambition is ultimately what will make Ripple successful and sustainable in rural markets. We aim to reduce morbidity and mortality from waterborne illnesses and thereby improve quality of life. Clear data exists on the many harms that contaminated water can cause a person. We have not found data to support the perception that people living in rural India are entirely ignorant to these ills as many of them have experienced acute and serious illnesses due to contamination in their water source. However, by providing communities with concrete data on the exact types and amounts of contaminants in their water and connecting them with resources to remove these agents, Ripple facilitates a specific, affordable, and effective solution and removes the guesswork. That these solutions are affordable is vitally important to Ripple’s mission as we understand that “a solution is not a solution if it is not affordable” (Shetty, 2011).
Market Analysis

India’s water purification market is expected to grow at an annual growth rate of 15% over the next five years, primarily due to the increasing product awareness in both rural and urban India (India Water Purifier Market Forecast & Opportunities, 2013). The BOP market in India makes up a quarter of the global BOP market, with the water sector alone accounting for over $20 billion annually (GRASP Analytique Private Limited, 2011).

A study conducted in three different Northern India states shows that almost 70% of rural Indians are worried about the quality of their drinking water. It also showed that people have difficulty gauging if the water is indeed safe to drink. A third finding showed that about two thirds of the rural population had little to no knowledge of different water purifier brands in the market (GRASP Analytique Private Limited, 2011).

The current water purification sector is comprised of ultra violet (UV) purifiers, reverse osmosis (RO) systems, and chemical purifiers. Eureka Forbes’ Aquaguard, the market leader in water purification devices, makes RO and UV models that account for just over 50% of the industry (Singh, 2011). The current cost of an electric purification system ranges from Rs. 6000-16000, meaning one or two months of income for the average BOP family. However, non-electric purification systems can cost as little as Rs. 499. Current data trends show movement towards non-electric purifiers primarily due to lower prices, especially in rural markets. More information on large companies’ non-electric purification models available in the Indian market can be found in Appendix D.

Water purification companies are already trying to promote their products while overcoming many of the obstacles present in the rural Indian BOP market. The strategies used by companies are as follows:

1. Partnering with various non-profit organizations
2. Reducing prices of high cost purification systems
3. Creating brand identity
4. Educating and raising awareness

The specific tactics used in each of the four marketing strategies are detailed in Appendix E. The role of a marketing agency or firm is to activate customers to change patterns of behavior and attitude towards purchasing purification systems. Ripple will help companies market their products more effectively in rural areas through understanding the driving forces in the BOP water purification market. Using an outside marketing source takes the pressure off of the purification company and allows it to solely focus on product development.
Feasibility Analysis & Pilot Project

Our team will begin validating our assumptions through first hand interactions in select rural communities. This approach enables us to obtain accurate data on water usage, access to purification devices, and prevalent marketing channels, all while familiarizing ourselves with cultural practices and way of life. With this information, we will begin to tailor an appropriate marketing strategy using behavior change methodologies and science-based marketing approaches.

Our pilot test with be conducted with our first partner, Spring Health, an organization that provides at-the-tap filtration in rural villages. Spring Health was identified as a partner organization due to their unique business model that allows a household to purchase purified water at very low cost. Without a prohibitive upfront cost, we will eliminate one of the factors that keeps people from drinking safe water, and be able to better focus on the other two factors -- that people either do not know their water is contaminated or that there is an option in their community for safe water. If successful, our marketing campaign will provide a community with a clear understanding of the level of contamination in their current water source as well as the best safe water option that is available to them.

Our minimum viable product (MVP) will be conducted in two villages that Spring Health seeks to enter in early 2015. In one of the villages, we will conduct our marketing campaign for 4-6 weeks (intervention), while the other village will receive Spring Health’s traditional marketing campaign (control). We will monitor the product adoption rates, along with other metrics and controlling factors, for a period of three months. A successful MVP would result in increased purchases of safe water in the intervention group as opposed to the control.

An important metric for our team to monitor to ensure financial feasibility is our cost per acquisition (CPA). An MVP with increased safe water purchases through our intervention does not necessarily signify success, as it may be cost prohibitive to implement the marketing campaign. Ultimately, we must decrease a company’s CPA for the campaign to be successful. While this will be difficult to validate in our MVP, we will monitor our results and are cognizant of its importance.

Our marketing campaign with Spring Health will target the previously identified reasons that safe water is neglected by so many in rural India. In most cases, contaminated water in rural villages is both clear and odorless; without proper testing equipment, there is no way to tell that this water is contaminated. Ripple will conduct proper testing through the use of low-cost devices at various wells and taps throughout the community. From there, we will create advertising materials that show the specific contaminants that are making the water unsafe, along with the corresponding ill health effects. By informing the community of these through Spring Health branded materials, we will help to establish themselves as a trusted brand.
Additionally, the misconception that safe water solutions are cost prohibitive exists throughout much of rural India, mainly due to the high cost of the electric purification devices that are heavily marketed to the urban middle class. However, many less sophisticated options exist that are able to effectively provide safe water, especially if the specific contaminants of the water are known. In the case of Spring Health, they sell the water pre-treated, meaning there is no upfront cost since the customers are not purchasing a device. We will utilize this to create advertising materials that show a cost comparison between Spring Health’s purified water and other items that BOP customers currently buy. For example, 10 liters of safe water costs as much as a short call on a mobile phone or a couple of cigarettes at the local shop. Advertising materials displaying this information will help demystify the costs of safe water.

Lastly, we understand the importance of adaptability when marketing in diverse, unfamiliar communities. Our team seeks to become experts in behavior change methodologies, actively validating our assumptions and pivoting our strategies when necessary. The pilot project will allow us a unique opportunity to test the effectiveness of our approaches in a way that minimizes risk for our client.

Financial Snapshot

Our revenue comes as a percentage of sales from the water purification companies with which we partner. Previous studies have shown behavior change interventions to increase adoption rates of water purification technologies by 3 to five times (Fiebelkorn et al, 2012). As an example, if a company charges their customers 4 rupees for 10 liters of water, we receive 10% of the sale. For a village of 50,000 members, we may increase the adoption rates of those who purchase water on a semi-regular basis (3 times/week) from 10 to 40 percent. The following table shows our revenue for one week in this scenario.

<table>
<thead>
<tr>
<th>cost/10 liters</th>
<th>4 [Rs]</th>
</tr>
</thead>
<tbody>
<tr>
<td>percent</td>
<td>10 [%]</td>
</tr>
<tr>
<td>village size</td>
<td>50,000 [members]</td>
</tr>
<tr>
<td>adoption rate</td>
<td>40 [%]</td>
</tr>
<tr>
<td>frequency of purchase</td>
<td>3 [purchases/week]</td>
</tr>
<tr>
<td>Our revenue (week 1)</td>
<td>₹24,000</td>
</tr>
<tr>
<td></td>
<td>$400</td>
</tr>
</tbody>
</table>

Our marketing campaigns will generally span 4-8 weeks of direct village intervention. Due to our unconventional revenue model, we must determine an acceptable time frame on which we can continue to earn a portion of our clients’ revenues. While this will be decided on a case by case basis, as a rule of thumb, we will collect revenues for a one month per week of intervention (e.g. a 6 week marketing campaign would allow us to collect revenues
from our client for a duration of 6 months). This model will be adapted as we collect more data on the duration of our impact in each community.

In the example above, a six week marketing campaign would result in $10,000 in revenues, collected over a six month span. As we gain credibility, our revenue model may adapt to incorporate an upfront fee for our services. It is vital that we take into account the financial situation of the companies with which we are entering contracts. A few plausible revenue scenarios are shown below, depending on the wants and needs of our client.

<table>
<thead>
<tr>
<th>Upfront cost</th>
<th>Percentage of sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Option 1</td>
<td>5,000 Rs per week</td>
</tr>
<tr>
<td>Option 2</td>
<td>2,500 Rs per week</td>
</tr>
<tr>
<td>Option 3</td>
<td>No upfront cost</td>
</tr>
</tbody>
</table>

In the first year, we will work in two villages and conduct 8 week marketing campaigns. As we expand, we hope to effectively conduct marketing campaigns in as little as 4 weeks. Our growth will favor larger communities and shorter interventions as our competency and efficiencies increase. By year five, we hope to work in 300 communities with a net profit of $570,000. A financial overview, including our five year growth plan, can be found in Appendix F.

**Risks & Assumptions**

Our major risk is going into a market that does not value our services enough for our profitability. We will mitigate this problem by proactively and effectively selling ourselves as a service through establishing a record of increased sales for our client- water purification companies.

A primary assumption we have made is that water testing and purification companies do not have the capacity to adequately and effectively market their devices in rural communities. We assume Ripple will be able to market a company’s product more effectively. Because an outsourced marketing team is an innovative approach within the sector, we are unsure how the companies will respond. We will need to be seen as a trusted and reliable partner.

A second assumption being made is that targeting the primary reasons people do not drink water will result in behavior change. However, we risk becoming too focused on current reasons people are drinking unsafe water which could potentially lead to the unaddressed reasons for drinking unsafe water to become more prevalent. We assume Ripple will be able to successfully change behavior away from drinking unsafe water to drinking safe water.
The assumptions we have made are being validated through conversations with companies involved in the water purification sector. We are learning from marketing efforts that have been successful as well as efforts that have not been successful. Another way that Ripple’s assumptions will be validated is through field tests facilitated by mentors currently in India. The field tests will include collecting data on current health beliefs and practices.

Finally, we are assuming that Ripple can penetrate this untapped market and have an effect on the water purification sector of India. A lucrative campaign in this sector would be demonstrated through increased sales for our customer, a water purification company. Based on conversations to build relationships and primary research, we assume Ripple will accurately determine a customer’s specific needs and wants to successfully increase sales.

A SWOT analysis for Ripple can be found in Appendix G.

Our Team

Adam Iversen
Adam is a graduate student in Water Resources Engineering at the University of Minnesota, where he previously received a BS in Environmental Engineering. He currently operates a hobby business working with artisans in eastern India, where he spent much of the last year. He is interested in utilizing his background to take Ripple’s pilot project forward.

Anna Schulte
Anna is a senior at the University of Minnesota pursuing a BS in Business and Marketing Education. Her experience in public health research and interest in socially minded business brought her to Acara. She is excited to go to India to conduct Ripple’s pilot project in the summer of 2015.

Emma Volbrecht
Emma is a junior pursuing her undergraduate degree in Bio-based Products Engineering at the University of Minnesota’s College of Science and Engineering. She plans to travel to India in the summer of 2015 to continue her work with Ripple.
References


Appendices

Appendix A: Customer Activation Strategies

According to the studies and strategies previously identified, it is clear that education, creating of a brand name for the company to ultimately establish trust among consumers, and reducing cost can result in increased sales for water purification companies. The marketing channels in emerging, rural markets must include organizations (either the company itself or partners) undertaking activities that unlock the latent desire in the consumer to make the purchase. The role of a marketing agency or firm is to activate customers. We have established 3 ways to activate a customer.

1. Education:
Consumers in rural emerging markets often lack knowledge about topics like modern hygiene practices, including obtaining potable water. Marketing channels should perform first-hand interviews and ethnographic research to determine how consumers currently perform the targeted behavior or function, and to learn what gaps in knowledge consumers currently have. Then, the agency should design education initiatives specific to the rural consumers. As well as partnering with local non-profit and governmental organizations.

2. Affordability:
Strategies that have worked well for companies in the past include shrinking traditional products to decrease their price, offering consumer financing, partnering with women specific groups, layaway programs, and targeting consumer in the area who have higher and more consistent incomes.

3. Brand identity:
Building a creditable brand is essential to the success of a company or product. Additionally, once a brand gains the trust of consumers, it will likely retain trust in the company or products due to “brand stickiness” displayed by rural consumers. Companies entering into this market with unknown brands have found piggybacking on established and trusted brands to be a successful strategy for gaining consumer trust.
Appendix B: Application of Health Belief Model in Safe Water Consumption

**Individual Beliefs**

**Perceived susceptibility.**
There is a lack of awareness in regard to susceptibility to waterborne diseases and chemicals, such as fluoride and arsenic, in water.

**Perceived threat.**
Waterborne diseases cause 1.5 million deaths of children under 5. Further, fluorosis leads to severe skeletal problems.

**Perceived benefits.**
Benefits include: Healthy life, reduction in children mortality, no working days lost due to waterborne disease, money saved when not used for health care.

**Perceived barriers.**
People believe that clean water is costly. There is also a lack of knowledge in regard to potential water contaminants and the different available options for water purification.

**Self-efficacy.**
There is a need for empowerment and education so rural India population get motivated enough to overcome the perceived barriers.

**Modifying factors**
Water in rural India is contaminated not only with bacteria, but also with naturally occurring chemicals like arsenic and fluoride. Also, the low levels of literacy and education, coupled with low income in rural areas, represent a burden for social small companies to penetrate the rural market.

**Action**

**Individual’s Behavior.**
People living in rural India would feel more inclined to get their water tested. Then, those who discover that their water is contaminated will try to get purified water from purification companies.

**Cues to action.**
Effective and persuasive social marketing campaigns that would create enough awareness.
Appendix C: Social Ecological Model
### Appendix D: Current Market

A sampling of large companies' non-electric purification models available in the Indian market:

<table>
<thead>
<tr>
<th>Brand</th>
<th>Model</th>
<th>Cost (Rs.)</th>
<th>Features</th>
</tr>
</thead>
</table>
| **Eureka Forbes**            | AquaSure 3PCTi      | 2290       | • 100% chemical free purification  
  • Natural shut off  
  • Double storage, 20 L storage  
  • No bacteria, virus, or cyst  
  • No boiling, electricity, or running water |
|                              | AguaSure Xtra       | 1390       | • 18 L storage  
  • No bacteria, virus, or cyst  
  • No boiling, electricity, or running water |
| **Hindustan Unilever Limited** | Pureit Compact      | 1000       | • No boiling, electricity, running water  
  • 14 L total storage  
  • 5 L purified storage |
|                              | Pureit Classic      | 2000       | • 23 L total storage  
  • 9 L purified storage |
|                              | Pureit Autofill     | 3200       | • Can connect to kitchen tap  
  • Advanced sensor to automatically turn off water when full  
  • 23 L total storage  
  • 9 L purified storage |
|                              | Pureit Marvell      | 6900       | • Automatic turn off system  
  • End of life indicator |
| **Tata Chemical Ltd**        | Swach Smart Magic   | 499        | • Uses nanotechnology  
  • Replaceable cartridges  
  • 3000 L bulb life  
  • Can be fitted with existing storage vessels  
  • 15 L storage |
| **Kent Health Care Products** | UF Gravity Water Purifiers  
(Model options: Smart, Gold, Optima) | Not specified | • Non-electric  
• No bacteria, virus  
• Fuller automatic operation  
• 7 L storage |
Appendix E: Product Promotion in Rural Markets

1. Partnering with various non-profit organizations
   Many companies are finding that engaging with local non-profit networks provides excellent access to rural consumers at very low costs. An example of this is Hindustan Unilever Limited's (HUL) Shakti. For this project, HUL partnered with local non-profits working with women in rural villages in India. Women were empowered through income-generating opportunities and entrepreneurship.

   A second example is partnerships between microfinance institutions and water purification companies. AquaSure, a storage water purifier by Eureka Forbes, is marketed by Basix, a microfinance institution. The partnership promoted making the consumption of safe water a lifestyle priority. Typically, for both poor and wealthy rural Indians, status symbol products take precedent to products that are actually beneficial to one’s health. Because of this, demand is low for water purification systems. Basix’s network of loan officers serve as the link between Eureka Forbes and rural populations. Customers are given information while purifiers are marketed as status symbols simultaneously. Since the partnership began, sales for Eureka Forbes have increased by 20%.

2. Reducing prices of purification systems
   Although consumers in rural emerging markets have low and sporadic incomes, it would be erroneous to assume that consumers desire to purchase “cheap” products. Rather, “[rural] consumers are very brand-conscious and are motivated to buy quality goods” (Prahalad, 2005). However, rural Indians tend to be very value-conscious. Companies are aware of this issue and have taken steps to overcome the barrier. One way is offer payments in the form of layaway. Layaway is an agreement made between the company and customer. The company reserves a product for the customer while the customer makes small payments over time. The customer receives the product when it is fully paid for. The main advantage for the customer is there is no interest rate associated with layaway payments. Its advantageous for the company because little risk is involved for them.

3. Creating a brand identity
   The poor are actually “very brand-conscious” and seek out the brands they know well and trust (Prahalad, 2005). Therefore, the challenge for a company entering a rural market is establishing trust so that consumers will purchase their product or service.

   “Trust is the most valuable commodity in rural India. (Prahalad, 2005)” Brand trust contributes to both loyalty in purchasing and attitudinal loyalty, which in turn, contributes significantly to market share and relative price, respectively.

   A rural, Indian marketing consultant firm, MART, has shown that when trust is established with rural consumers, they become “brand sticky;” meaning they are resistant to switching to new brands. Which then further contributes to a company's
long-term success in the market. Two different ways companies have successfully created a brand identity in a new market are:

1. **Commercial branding:** A famous example of this is when Coca-Cola used the existing local beverage brands in India (Limca, Thums Up, Citra) to quickly build a brand identity.

2. **Partnering with non-profit organizations:** ITC’s Agri-business, for example, chose to piggyback on the reputation of prominent farmers when starting the e-Choupal initiative. Partner with prominent farms enabled ITC’s Agri-business to extend its distribution channels deep into rural communities. Rural farmers in India may have been hesitant originally to trust the ITC brand but the partnership with prominent farmers displayed already established trust.

4. Educating and raising awareness

   “Education of customers on product usage is key.” (Prahalad, 2005) Often times, before a company can begin selling its product or service, the company needs to educate consumers about the benefit the product or service will have on their lives. The company needs to give significance to their product or service in relation to the consumer’s lifestyle.

   “For a brand to establish itself, the company needs to educate rural consumers, develop their interest through interactive communication, encourage their desire to own/use new products and deepen their confidence in the brand through live demonstrations,” Pradeep Kashyap, founder of marketing consultant firm, MART.
# Appendix F: Five Year Growth Plan

## Ripple -- Illustrative Financial Projections

<table>
<thead>
<tr>
<th>Volume</th>
<th>2015***</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 week campaign - small village</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>8 week campaign - small village</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>25</td>
<td>50</td>
</tr>
<tr>
<td>4 week campaign - large village</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>50</td>
<td>100</td>
</tr>
<tr>
<td>8 week campaign - large village</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

***village size defined as less/greater than 10,000 resident

### Total Units

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>6</th>
<th>30</th>
<th>150</th>
<th>300</th>
</tr>
</thead>
</table>

**Revenue**

<table>
<thead>
<tr>
<th></th>
<th>2015***</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 week campaign - small village</td>
<td>$0.00</td>
<td>$3,000.00</td>
<td>$15,000.00</td>
<td>$75,000.00</td>
<td>$150,000.00</td>
</tr>
<tr>
<td>$/intervention</td>
<td>$3,000.00</td>
<td>$3,000.00</td>
<td>$3,000.00</td>
<td>$3,000.00</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>8 week campaign - small village</td>
<td>$4,000.00</td>
<td>$8,000.00</td>
<td>$40,000.00</td>
<td>$100,000.00</td>
<td>$200,000.00</td>
</tr>
<tr>
<td>$/intervention</td>
<td>$4,000.00</td>
<td>$4,000.00</td>
<td>$4,000.00</td>
<td>$4,000.00</td>
<td>$4,000.00</td>
</tr>
<tr>
<td>4 week campaign - large village</td>
<td>$0.00</td>
<td>$6,000.00</td>
<td>$30,000.00</td>
<td>$300,000.00</td>
<td>$600,000.00</td>
</tr>
<tr>
<td>$/intervention</td>
<td>$6,000.00</td>
<td>$6,000.00</td>
<td>$6,000.00</td>
<td>$6,000.00</td>
<td>$6,000.00</td>
</tr>
<tr>
<td>8 week campaign - large village</td>
<td>$0.00</td>
<td>$16,000.00</td>
<td>$80,000.00</td>
<td>$400,000.00</td>
<td>$800,000.00</td>
</tr>
<tr>
<td>$/intervention</td>
<td>$16,000.00</td>
<td>$16,000.00</td>
<td>$16,000.00</td>
<td>$16,000.00</td>
<td>$16,000.00</td>
</tr>
</tbody>
</table>

**Total Revenue**

| | $12,000.0 | $33,000.0 | $165,000.0 | $875,000.0 | $1,750,000.0 |

**Variable Costs**

<table>
<thead>
<tr>
<th>Cost of Revenue</th>
<th>Cost - 4 week, small</th>
<th>$0.00</th>
<th>$1,200.00</th>
<th>$6,000.00</th>
<th>$30,000.00</th>
<th>$60,000.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>$/intervention</td>
<td>$1,200.00</td>
<td>$1,200.00</td>
<td>$1,200.00</td>
<td>$1,200.00</td>
<td>$1,200.00</td>
<td></td>
</tr>
<tr>
<td>Cost - 8 week, small</td>
<td>$1,600.00</td>
<td>$3,200.00</td>
<td>$16,000.00</td>
<td>$40,000.00</td>
<td>$80,000.00</td>
<td></td>
</tr>
<tr>
<td>$/intervention</td>
<td>$1,600.00</td>
<td>$1,600.00</td>
<td>$1,600.00</td>
<td>$1,600.00</td>
<td>$1,600.00</td>
<td></td>
</tr>
<tr>
<td>Cost - 4 week, large</td>
<td>$0.00</td>
<td>$2,400.00</td>
<td>$12,000.00</td>
<td>$120,000.00</td>
<td>$240,000.00</td>
<td></td>
</tr>
<tr>
<td>$/intervention</td>
<td>$2,400.00</td>
<td>$2,400.00</td>
<td>$2,400.00</td>
<td>$2,400.00</td>
<td>$2,400.00</td>
<td></td>
</tr>
<tr>
<td>Cost - 8 week, large</td>
<td>$3,200.00</td>
<td>$6,400.00</td>
<td>$32,000.00</td>
<td>$160,000.00</td>
<td>$320,000.00</td>
<td></td>
</tr>
<tr>
<td>$/intervention</td>
<td>$3,200.00</td>
<td>$3,200.00</td>
<td>$3,200.00</td>
<td>$3,200.00</td>
<td>$3,200.00</td>
<td></td>
</tr>
</tbody>
</table>

**Total Variable Costs**

| | $4,800.0 | $13,200.0 | $66,000.0 | $350,000.0 | $700,000.0 |

**Fixed Costs**

<table>
<thead>
<tr>
<th>Employees and infrastructure</th>
<th>$5,000.00</th>
<th>$10,000.00</th>
<th>$20,000.00</th>
<th>$100,000.00</th>
<th>$200,000.00</th>
</tr>
</thead>
</table>

**Total Fixed Costs**

| | $5,000.0 | $10,000.0 | $20,000.0 | $100,000.0 | $200,000.0 |

**Total COR**

| | $9,800.0 | $23,200.0 | $86,000.0 | $450,000.0 | $900,000.0 |

**Gross Profit**

| | $2,200.0 | $9,800.0 | $79,000.0 | $425,000.0 | $850,000.0 |

**Gross Margin**

| | 18.3% | 29.7% | 47.9% | 48.6% | 48.6% |

**SG&A Expenses**

| | $1,200.0 | $8,250.0 | $33,000.0 | $157,500.0 | $280,000.0 |

(% Revenues)

| | 10.0% | 25.0% | 20.0% | 18.0% | 16.0% |

**EBITDA**

| | $1,000.0 | $1,550.0 | $46,000.0 | $267,500.0 | $570,000.0 |

**EBITDA Margin**

| | 8.3% | 4.7% | 27.9% | 30.6% | 32.6% |
Appendix G: SWOT Analysis

**Strengths:** The founders of Ripple have a unique set of skills and networks that give them an undeniable strength in this market. (More information about each individual’s specific background and qualifications can be found in the section titled “Our Team.”) To summarize, our team contains several engineering students, two people who have lived in India (one was raised there), a business owner, two public health students, and several people who have worked in various types of academic research. All of these skills and experiences will lend themselves to different parts of Ripple’s process and the refinement of that process as we learn more during our pilot project. What each person has in common is their commitment to making a positive impact on morbidity and mortality of waterborne illnesses. We will be successful because of this laser focus on water purification issues, with opportunities to expand to other sectors and health issues when we have refined Ripple’s process.

**Weaknesses:** An obvious weakness of Ripple as of this writing is that we are not currently in India in a physical sense. This is why we believe we are at a critical point in our development that necessitates our proposed pilot project. We need a chance to test a lot of our assumptions and learn more about working with creative marketing channels, behavior change theories, and paraskilling. We are relatively inexperienced in each of these areas compared to what we envision Ripple becoming.

We are also aware that we do not have any potential clients’ or consumers’ trust to begin with, so we will have to work to establish our own brand identity in the water purification community. We will also have to work to earn the trust of the consumers we are targeting on behalf of our clients, who may also be unknown to those people and therefore not immediately trusted.

**Opportunities:** Based on our primary and secondary research of the water sector in India we believe that we have identified a unique opening in rural markets. People in rural areas of Northern India care about the quality of their water and want to buy the safest water that they can afford, as discovered in research cited in the “Industry Overview” section above. Also discussed in our Industry Overview is that there has been a trend of new technology companies entering rural markets with their low-cost innovations. However, we have learned through interviews with small technology companies and NGOs in the water sector that these companies often do not have the capacity to market their products. We believe that we can create unique marketing solutions for their products and promote them in rural areas. We think that these companies will want to pay us to do this because for-profit companies of course want to increase their sales and brand awareness; if we take a cut of their incremental sales there is no reason for these companies to turn down assistance from Ripple. This belief is confirmed by our ongoing communications with Spring Health, a small water distribution company that is very interested in our work. The Ripple team members who intend to go to India for the pilot project hope to partner with Spring Health.
**Threats:** A possible threat to Ripple is the prevalence of NGOs that also wish to decrease waterborne illnesses. Jacob Mathew, director at Spring Health, said “...expectations of people have been slightly difficult to manage in the villages. You go there and the moment you say you are about safe drinking water they expect that you are an NGO, and when you say no we are not an NGO, and that you will have to pay for this water, they say no way.” Ripple will have to be strategic in how we present ourselves and our clients to the potential consumers in such a way that builds trust and avoids a negative initial reaction like the one Mathew describes.

An assumption that Ripple currently holds is that companies would accept marketing help from an outside agency. It may be that some companies, like Spring Health, are interested in our services, but it’s difficult to know with certainty the number of companies who are interested and the number who are not. Another threat that Ripple identifies is that we do not have a written agreement with Spring Health to partner on our pilot project. If we cannot get an agreement with Spring Health we will have to work to contact other companies who we think might be interested in allowing us to pilot our idea with their product or service.