HARVARD | BUSINESS | SCHOOL

9-511-067

REV: APRIL 3, 2013

V. KASTURI RANGAN

MONA SINHA

Hindustan Unilever's "Pureit" Water Purifier

On June 14, 2010, Yuri Jain, vice president (water) at Hindustan Unilever (HUL), glanced at the two new models of Pureit water purifiers on his desk: one, the sleek new Marvella, to be launched at $150 later that month;[a] the other, a basic model, Compact, priced at $22, that represented HUL's decade-long endeavor to bring clean drinking water to the masses. With the launch of Pureit Marvella, HUL would now straddle the entire spectrum—covering the low to the top end of the market with its Pureit range.

Jain had led HUL's foray outside its core consumer packaged goods business into the uncharted "durables" territory. Pureit had been incubated for more than a decade. HUL faced many new challenges as it learned new ways of operating to address the critical water needs of its bottom-of-the-pyramid consumers. Yet Jain and his team had resolutely forged ahead, finally launching the first water purifier model, Classic, nationally in India in 2008. Priced at $44, this had been a breakthrough innovation: for the first time, the gold standard of water safety was being offered at a price point that was affordable for the millions of Indians who lacked clean drinking water. Classic quickly claimed market leadership at the low end of the market with a painstakingly built direct-to-home (DTH) network, which served to educate consumers as well as book orders. Then, in October 2009, HUL launched an Auto-Fill model. Priced at $70, it had the same technology as Classic, but had the additional feature of being able to connect directly to the water source for automatic, rather than manual, filling. This was a great convenience for the many Indians who faced a sporadic water supply, with water often flowing just once a day, and at erratic hours.

Within two years, the flourishing water purifier business in India attracted a formidable competitor at the low end of the market, where HUL had been the only player. In December 2009, Chairman Ratan Tata of the $70.8 billion Tata Group unveiled "Swach" ("clean"), a water filter at the unbelievably low price of $22. The Tata Group also announced that sometime later it would launch an even cheaper model at a price of $16. The Tata Group had deep pockets, goodwill, as well as experience in the consumer durables market; moreover, Swach was priced at half the cost of Pureit Classic.

Jain and his team's reaction was inevitable and swift. A day before the market launch of Swach in January 2010, HUL flooded the market with Pureit Compact, which was also priced at $22. The HUL water team had been working on a lower-price product as part of its product innovation program, and when the team learned of Tata's imminent launch, its response was to crash timelines and get its product to the market ahead of the Tata products. Then, in a surprise move, the team turned its

[a] USD 1 = Rs. 46

Professor V. Kasturi Rangan and India Research Center Researcher Mona Sinha prepared this case. Thanks to Rachna Chawla for her assistance. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

attention to the high end of the market, coming up with Pureit Marvella. HUL was now entering a space dominated by decade-old brands both in the DTH and retail segments. Until then, HUL's existing DTH network had been geared to targeting middle- and low-income consumers rather than upscale consumers. Could the company's merely high school-educated salespeople sell such high-priced items to upper-income consumers? In the previous year, the water team had consciously moved away from an exclusive reliance on its expensive DTH distribution network to also include a retail-oriented strategy. But its foray into consumer durables retail was still very nascent. What additional capabilities did HUL need? And was it stretching itself too thin as it tried scaling two opposite ends of the consumer spectrum in a hyperactive competitive environment?

Hindustan Unilever Limited (HUL)

Hindustan Unilever Limited was part of the €39.8 billion[1] ($58 billion) Unilever Group. Set up as Hindustan Vanaspati Manufacturing Company, Unilever's Indian subsidiary, in 1931, it merged with Lever Brothers India Limited in 1933 and with United Traders Limited in 1935 to form Hindustan Lever Limited (HLL) in 1956. In 2007, HLL was renamed Hindustan Unilever Limited (HUL), leveraging the global Unilever name while also retaining its local Indian heritage personified by "Hindustan," meaning "India." Its corporate vision was "to earn the love and respect of India by making a real difference to every Indian . . . 'Doing Well by Doing Good.'" Indeed, as managing director and CEO Nitin Paranjpe often reiterated, "We have always believed that if something is good for India, it is good for us. Before the economy liberalized, we entered many areas such as chemicals and leather, because these were relevant to India at the time. After liberalization, we divested those businesses. [I believe] if you do things with the right intent and spirit, you don't have to worry about the payback . . . it will come."

With sales of $3.8 billion and a net profit of $468 million (2009–2010) (see **Exhibit 1** for the 2009–2010 income statement), HUL had 15,000 employees, including 1,400 managers. It was the market leader in India across a variety of product categories, reaching more than 700 million consumers in urban and rural India. HUL's 35-plus brands across 20 consumer non-durables product categories in soaps, tea, detergents, ice cream, and shampoo included household names such as Lifebuoy, Lux, Pond's, Pepsodent, Close-up, and Lipton, with goods manufactured in more than 37 factories across India and distributed by about 2,800 stockists supplying nearly six million of the 7.7 million retail outlets in India (one million direct retailers and five million indirect retailers).[2]

Water

In 2010, roughly two billion people in the world lacked access to safe water, let alone piped water (which nearly three billion people lacked). "Blue is the new Green" was an apt global mantra, as the Commission on Sustainable Development had estimated that it would require an investment of roughly $25 billion a year over the next 25 years to provide access to improved water and sanitation services for all. Providing piped potable water to all would escalate that investment several fold. The current global spending on water was only a fraction of that requirement. This provided significant opportunities for innovative business solutions for water, especially in emerging economies where close to 42% of the regions' population lacked access to safe water, resulting in waterborne diseases pressurizing already fragile health care systems.[3]

In 2000, the United Nations established eight Millennium Development Goals (MDGs). The water-related target was to reduce by half the proportion of people without sustainable access to safe

drinking water and basic sanitation.[4] In development circles it was usually assumed that a person needed a minimum of three liters of water per day for drinking, five liters for cooking needs, and an additional 20 liters for hygiene needs.[5] This translated to roughly 10,000 liters of water requirements per year per person, of which 2,800 liters were for drinking and cooking. In comparison, an average U.S. resident consumed 20 times as much.[6]

India's water supply was highly dependent on monsoons. Unsustainable water consumption due to increased demand, developmental pressures, and socio-economic activities had led to severe water shortages for agriculture, industrial, and domestic use. According to UNICEF, in 2006, access to drinking water sources in India had improved to 89% (96% urban and 86% rural), and access to sanitation facilities had improved to 28% (52% urban and 18% rural).[7] Yet no Indian city had a 24-hour domestic water supply. For example, in the capital, New Delhi, the city's poorly maintained pipes and equipment routinely resulted in 40% of the water being wasted en route to consumers. Water was rationed by supplying limited quantities for few hours a day. As the economy boomed and real estate projects mushroomed, property developers drilled deeper and deeper bore-wells, thereby depleting the ground water table. [8]

Apart from quantity, water quality was an issue. A 2002 World Health Organization study found that 782,000 deaths, or 7.5% of all deaths in India that year, were caused by diseases related to unclean water. Indeed, only 60% of drinking water resources in India (ground and surface water) were usable; the rest were contaminated by excessive levels of salinity, fluoride, arsenic, iron, nitrate, sewage, industry effluents, and agrochemicals.[9] Untreated sewage was routinely flushed into rivers. Even in places where municipal tap water was available, the erratic supply and unreliable quality led to reliance on vendors with tanker trucks for supplying drinking water.[10] The water was often contaminated, and it was common practice to boil the water, especially at times of seasonal epidemics, such as during the monsoons. Jain described how lack of both education and awareness among the poor and the rural population compounded the problem, saying, "There is a widely held belief that in rural areas water is safe to drink because it gets filtered as water sifts through the ground. However, the widespread rural habit of defecating in the open, and the poor handling of water as it comes out from the wells, contaminates the water with germs. [We] tested [that water] and found huge levels of germ contamination. Indeed, the poorer a consumer . . . the higher the likelihood of their water being of a poorer quality." In the urban areas, middle-income consumers seldom trusted the quality of their municipal water, and the media frequently reported cases of large-scale contamination.

A study by the Confederation of Indian Industries and PricewaterhouseCoopers in India summarized the factors contributing to the water problem in India: environmental factors, such as receding ground water and deterioration of water quality due to contamination; social issues, such as low awareness about water usage efficiency and waste disposal; and governance issues, such as inadequate and unplanned investments in water and sanitation infrastructure.[11] In this context, it was not surprising that in July 2010 the United Nations (UN) General Assembly adopted a resolution that declared that the right to safe and clean drinking water and sanitation was a human right that was in turn essential for the full enjoyment of life and all other human rights.

Genesis of the Idea

At the turn of the twenty-first century, as part of a major new ventures thrust, HUL began to pursue a half-dozen new opportunities outside its traditional products and markets. For example, in 2000, HUL began Project Shakti, a microcredit-based entrepreneurial network for underprivileged

rural women, which enabled HUL to extend its rural marketing reach beyond its traditional retail distribution network while also empowering rural women with a source of income.[b] Though the project had not yet scaled up significantly, the strategy was of significance given that "India lived in its villages." Almost 72% of India's one billion-plus population was rural, and half of the rural population had a per-capita monthly income of $14.[12]

Another of HUL's ventures was to create a water purification and storage system meant for consumer use at the point of water usage. Several options were analyzed before HUL concluded:

> Boiling water to make it safe from germs was considered by consumers to be cumbersome, time-consuming, and expensive—and what's more, it altered and spoilt the taste of water. Existing water purifiers available in the market were not only expensive, but also needed electricity and pressurized tap water to function—and these three constraints meant that, for most urban and rural consumers, this was not a viable means for getting safe water. The other alternative of bottled water was far too expensive for meeting the large daily water consumption needs of consumers. This high cost of bottled water was largely due to the two big costs of the plastic bottle and the cost of transporting water—neither of which really related to water or to its purity. Given this consumer context, a paradigm shift in the ability to provide safe water would only be possible if one could affordably provide the gold standard of water safety, without technologically depending on the availability of electricity or pressurized tap water.

HUL's move into water purifiers was thus the beginning of many firsts for the organization: venturing into the consumer durables market, working backwards by identifying the consumer opportunity rather than leveraging brand opportunity from the top down, developing new research and development (R&D) and manufacturing capabilities in the consumer durables area, building a DTH sales capability, and building consumer durables retail channel capability. Indeed, this was the first time, as Jain recalled, that HUL could not directly leverage many of its existing corporate competencies and synergies.

Industry

The in-home point-of-use (POU) water purifier market in India was estimated to be worth $450 million in 2009 and was projected to grow at a compound annual growth rate (CAGR) of 20% from 2009 to 2014, reaching $1.1 billion in 2014.[13] (See **Exhibit 2** for a market overview.) Current water purifier usage was just 8%—the vast majority in India boiled water; used ceramic filters (or "candle filters"),[c] iodine, or cloth filters; or did nothing.[14] However, by 2025, 41% of India's 1.14 billion-strong population was expected to be middle[d] class[15] (**Exhibit 3** provides an overview of Indian consumer markets). Rising literacy had led to higher awareness of health issues.

Slowly, consumers were adopting POU technologies to replace traditional water purifying methods. However, despite high awareness in urban areas, penetration remained low because the vast majority of households didn't have access to full-time electricity and pressurized water, which

[b] See V. Kasturi Rangan and Rohithari Rajan, "Unilever in India: Hindustan Lever's Project Shakti—Marketing FMCG to the Rural Consumer," HBS No. 505-056 (Boston: Harvard Business School Publishing, 2007).

[c] Candle filter: A porous ceramic filter fitted on a plastic or ceramic receptacle. Water passed through the filter into the receptacle, leaving impurities on top of the candle, which can later be rinsed out with soap and water.

[d] In real 2000 terms, an annual income of approximately US$ 4,500 constituted a middle-class income, which in purchasing power parity (PPP) terms translated into $25,000.

ultra-violet (UV)[e] and reverse osmosis (RO)[f] technology-based purifiers needed. The growth of the RO technology products was centered in specific geographies that had excessively hard water, because under these conditions RO would improve the taste of the water (hard water by itself was not a health problem). Growth of both UV and RO technology products was also limited by their high prices.

Countertop water purifiers, unlike UV and RO purifiers, did not require electricity to work, and their lower cost—$40 to 60, versus $100 to 300—had put them within reach of India's burgeoning middle class.[16] However, the countertop purifier market had not developed prior to HUL's entry because the prevailing countertop products in the market offered inadequate safety from the three types of germs—viruses, bacteria, and parasites. Boiling, the most popular consumer method, was effective in killing germs, but was a cumbersome, time-consuming, and expensive process. Boiling also altered the taste of the water; many mothers found it difficult to get children to drink boiled water (see **Exhibit 4** for a detailed comparison of various product technologies).

Key competitors in the water purification space, such as Eureka Forbes Limited (EFL), Ion Exchange, Philips, and Whirlpool, were focused at the top end of the market with UV- and RO-based purifiers (**Exhibit 5** contains product and price point details). EFL, a consumer durables company set up in 1982, first introduced UV-based POUs in India under the brand name "Aquaguard." Historically, EFL also had a countertop gravity-fed purifier under the name "Forbes." After Pureit started its test launch, EFL improved the germ-kill ability of its countertop purifier and changed the brand name from "Forbes" to "Aquasure." Later, EFL also added the more expensive UV and RO technology-based products under the Aquasure name. In general, the prices of the various models in the Aquasure range were lower than the ones in Aquaguard. Recently the Aquasure brand had been focused into the retail channel, and the Aquaguard brand had been focused into the DTH channel.

The Eureka Forbes division of EFL, which made a range of consumer durables such as vacuum cleaners, home security systems, and the range of water purifiers described in this case, was now a $160 million multi-product and multi-channel business, boasting Asia's largest direct selling network: 7,000 sales personnel reached 1.5 million homes in more than 131 cities and 398 towns across the country. It had 10,000 dealers and over 58 distributors, and was gradually accelerating its rural penetration through non-governmental organizations (NGOs). It reported an average gross profit of 50% and a net profit of 5% over the last several years. By contrast, HUL, which was in the consumables business, averaged a net profit of 12% (see **Exhibit 1**.) Jain noted EFL's strength, saying, "Eureka Forbes is probably the only company in the world which exclusively sells water purifying systems, door-to-door, by cold calling." RO purifiers were introduced in the 1990s by Ion Exchange, a water and environment management company. These required running water and electricity, and were priced higher than the UV products. Unlike UV products, however, RO products could improve the taste of the water if the water happened to be excessively hard. Other key players in water purifiers included major consumer durables companies such as Kent, Philips, and Whirlpool, all focused on retail selling.[17]

However, most cities and towns faced infrastructural constraints such as shortages of electricity and water, which meant that affordable gravity-fed countertop purifiers would be able to gain significant consumer penetration where the UV and RO purifiers had failed to do so. In this context,

---

[e] Ultraviolet filtering: A method of filtering that uses short-wave light that rearranges the reproductive mechanisms of bacteria and viruses so they can no longer reproduce (see http://www.excelwater.com/eng/b2c/water_tech_3.php).

[f] Reverse osmosis filtering: A method of filtering water through a semi-permeable membrane that allowed passage of water but not of large molecules and ions (see http://chemistry.about.com/od/waterchemistry/a/reverseosmosis.htm).

the technological challenge for HUL was to find a way to deliver virus kill and bacteria kill as per the stringent international standards of the United States' Environmental Protection Agency (U.S. EPA)—something that all the expensive UV and RO products aimed to do—but now HUL wanted to achieve this at a consumer price that was one-third to one-seventh that of the expensive UV and RO products. Lower-income consumers did not have access to expensive purifiers or to the higher-quality water available to upper-income consumers; thus, developing a low-cost purifier that met the very best international germ-kill standards was key. HUL achieved this objective through a series of technological breakthroughs that used a novel biocide-cum-filter-based approach to create a purifier in 2004 that achieved the U.S. EPA germ-kill requirements. That same year, HUL test launched the product in India. To rapidly establish leadership positions in its targeted consumer segments, HUL followed a strategy of pricing the product at what the target consumer could afford, rather than following a cost-based pricing approach.

The Tata Group, an eminent, well-respected, Indian multinational conglomerate, was a recent entrant at the bottom end of the market with "Swach," a device that combined low-cost and eco-friendly ingredients such as rice husk ash with nano-silver leach technology. Launched at $22 in select Indian states, it aimed to go national soon and to sell one million units in 2010, scaling to three million units annually within three years. Besides the cost advantage, Tata had considerable experience in selling consumer durables such as watches, refrigerators, and air conditioners, and had its own consumer durables retail store chain along with a well-entrenched rural network. Although Tata did not have a DTH channel for selling durables, it had been test marketing Swach through a strong NGO network. (See **Exhibit 6** for segmentation by technology, product and player; **Exhibit 7** for information about brand performance; and **Exhibit 8** for product pictures).

Strong domestic contenders from other sectors also entered the fray, such as Godrej,[g] which entered at the upper end of the market with its model "Krystal," and Asian Paints,[h] which entered at the lower end of the market with its 650 ml personal water bottle purifier.[18] As the unorganized sector mushroomed, the market became highly fragmented, with more than 150 national, regional, and local players.

Meanwhile, Unilever's global competitor, Procter and Gamble (P&G), which also had a strong Indian presence, was planning to roll out a water purification product in the format of a single-dose sachet pack. P&G had developed this POU technology, which met the U.S. EPA germ-kill standards, through a combination of coagulation, flocculation,[i] and disinfection processes. P&G field tested its technology in collaboration with the United States' Center for Disease Control and Prevention (CDC). Each sachet was capable of treating 10 liters of water via a half-hour process in which the consumer had to go through a process of repeated stirring and waiting. Each sachet was priced at $0.10. Like HUL, P&G had done global research that indicated that, along with affordable solutions and at-home control, consumers needed visible signals that the water was cleaner. Both companies had also learned that one-time educational programs did not change consumer behavior; hence, they expected to use a market-based approach with collaborations with the private sector, government, NGOs, and research institutions.[19]

The Indian private sector was also increasingly making forays into the water arena, with a handful of "build-own-operate" models on a public-private-partnership basis whose aim was to supply

[g] Godrej Appliances was part of the Godrej group, a respected and successful conglomerate in India (http://www.godrejappliances.com).

[h] Asian Paints was the largest color and paint company in India (http://www.asianpaints.com).

[i] "Flocculate" refers to loosely aggregated particles.

unbranded bottles of water from community water treatment plants, distributed directly or through franchises.[j] According to some estimates, 600,000 villages, 120,000 government licensed hospitals, 100,000 schools, and 65,000 restaurants needed a clean water supply.[20] Although industry watchers believed that the mass or entry level was the growth area, money was really to be made at the upper end of the market.[21] However, the current dominance of UV (62%) and RO (18%) technologies[22] was likely to change due to the launches of HUL's Pureit, EFL's Aquasure, and Tata's Swach.

The water team's general manager (India business) noted the key area of concern regarding the lower-end market in India was the absence of a government regulatory framework in relation to the germ-kill performance of the purifiers being sold. This meant that some players in the market could choose to disregard internationally recognized standards for a purifier's germ-kill ability in their quest to reach lower consumer price points. This in turn would not only imply that the consumer's need for safe drinking was not being met, but it also meant that the consumer was being misled into thinking that his or her water was safe to drink when it might not be so. HUL had therefore been working with the government's Bureau of Indian Standards, as well as with some industry bodies, to develop a regulatory framework for the water purification sector, but this was still in the nascent stages.

Product Development

The water initiative was a global Unilever project, with India chosen as the lead country and HUL charged with developing an appropriate product and go-to-market plan. HUL followed a radically different process in developing Pureit than the company norm. An inter-functional innovation team was created that sought open-source technologies and forged many external partnerships, including one with the London School of Hygiene and Tropical Medicine, to understand what it would take to meet the international germ-kill criteria for purifiers set by the U.S. EPA. In addition to developing a product that would meet international standards for water quality, HUL had to cope with a range of local constraints, such as the requirement for the equipment to function without electricity and running water.

As explained earlier, a majority of the households did not have a piped water supply to their homes. Some gathered water from a common municipal pipe within walking distance of their homes, and many others tapped into ground water. Even where homes did have running water, since the supply was limited to a few hours only, the water was often collected in overhead tanks for distribution later on. Thus, HUL had the challenge of making Pureit work without depending on either the availability of pressurized tap water or the presence of electricity. In addition, HUL wanted the device to be fail-safe from a consumer perspective—so the team wanted to have an indicator to signal the approaching end of life of the consumable refill component (which was subsequently named the "Germ-Kill Kit"), and also an auto-shutoff mechanism that would stop the flow of water when the germ-kill power of the consumable refill component had ceased. Notably, at the time, even premium UV and RO purifiers that were priced at $100+ did not have an end-of-life indicator or a safety auto-shutoff mechanism. On the one hand, having a consumable component meant a steady revenue stream from consumers over time, but, on the other hand, the challenge was to construct a service delivery channel to fulfill that need. The product design was further complicated by a better understanding of the target consumer, which translated into a whole range of ergonomic, aesthetic, and aspiration-related design requirements for the product.

[j] Domestic companies such as the conglomerate Mahindra and Mahindra and international companies such as WaterHealth International had set up water treatment plants in select towns. "Special Report: Water," *Businessworld*, May 2010, pp. 44-49, http://www.businessworld.in/bw/magazine/2010_05_10.

There were several technical challenges in developing such a product, and an extensive global scan by Unilever showed that no such product existed anywhere in the world. The variance in water quality from area to area meant that the device had to protect against the three different types of harmful germs—the easy-to-kill bacteria, the harder-to-kill viruses, and the parasites that would have to be physically removed from the water because they were difficult to kill. Further, the output water would not only have to be safe to drink, but would also have to look clear, be odorless, and have a good taste since research revealed that it was difficult for consumers to believe that water could be safe to drink unless the aesthetics of the water also suggested that this was so.

In developing Pureit, HUL was essentially creating a miniature water treatment plant. What towns and municipalities did using a batch process in huge volumes was now being attempted as a continuous process within each piece of equipment meant for use inside a small home. Simultaneously, the team was learning how to use new materials, source from new vendors around the world, and develop new manufacturing competencies. Jain estimated that the team faced a new technical hurdle literally every week—and it took roughly 200 design changes spanning four years to resolve them all. At one point in this innovation journey the team had a product which met all the target design specifications except one: the Germ-Kill Kit was four times the desired cost target. The team was under huge pressure to deliver since it had already overshot the one-year delivery deadline by more than by two years. In spite of that pressure, the team resisted the temptation to launch a purifier by diluting its germ-kill performance standards. Instead, it went back to the drawing board to find innovative ways to dramatically reduce cost without compromising on quality. Finally, Pureit was soft-launched in 2004, test marketed from 2005 to 2007, and taken national in 2008. A senior HUL manager summarized the product development effort, saying, "We would absolutely not compromise on the quality, whatever expense it took us to get there. We must have spent millions of dollars to get it right, but that is what our brand stands for—integrity and assurance. It has been one of the most intensive product development initiatives at HUL in a long time."

The final purifier operated on the principle of gravity and deployed four stages of purification. First, water that was filled into the top chamber went through a microfiber mesh (MFM) that removed suspended particles. Then the water flowed quickly through a winding path in the compact carbon trap (CCT), which caught the parasites, physically removing them from the water. The CCT had to be designed to take care of two conflicting technical requirements—physical removal of parasites would be easier with narrow water pathways, whereas the requirement of ensuring good flow rates (a key consumer need) would be easier with wider water pathways. In the third stage, the water passed through a processor, which contained a stack of biocidal tablets that were instrumental in killing all harmful viruses and bacteria. The last tablet in the processor was made of red plastic, and when this red tablet became visible through a window-like aperture in the front of the device, it indicated to the consumer that the Germ-Kill Kit was approaching the end of its life. In addition to the advance warning end-of-life indicator, the processor had a unique auto-shutoff technology, which stopped water from reaching the dispensing chamber if the Germ-Kill Kit's life was over. In the fourth and final stage, a polisher removed the chlorine and odors from the water, making it visually clear, odorless, and neutral-tasting. The device could purify about six liters of water per hour. The technical diagram is provided in **Exhibit 9**.

The variants, all operating with the same basic technology, were developed and launched in the following sequence:

1. Classic: A 23-liter device with 9 liters of output water storage and with manual filling was launched nationally in 2008 at a price of $44.

2. Auto-fill: A 23-lliter device with 9 liters of output water storage and with an automatic filling feature was launched in October 2009 at $70. This could be attached to a running water source and would fill whenever the tap had a flowing water supply.

3. Compact: A 15-liter device with 5 liters of output water storage and with manual filling was launched in January 2010 at a price of $22.

4. Marvella: Launched in June 2010 at $150, it was promoted as India's first fully automatic water purifier—with a sleek finish and superior aesthetics. Unlike the UV purifiers in the market, Marvella had the following additional consumer features:

    - It worked without electricity.
    - It didn't require a manual start and stop by the consumer every time the consumer wanted water.
    - It had an end-of-life safety indicator and an auto-shutoff system.
    - It came with a built-in 4.5 liters of output water storage, and also had a built-in jug that could be removed from the purifier for serving or refrigeration.

The Water Team

Yuri Jain headed the water team as vice president and reported to the CEO at HUL for the domestic part of his business. For Pureit's international foray, he reported to Unilever's chief marketing officer. An HUL veteran, Jain had joined as a management trainee over 20 years earlier, after earning an engineering degree from the Indian Institute of Technology (Delhi) and a post-graduate management degree from the Indian Institute of Management (Ahmedabad). Jain returned from a stint in London in 2000 as the marketing manager for a household care business that had products meant to kill germs on floors and in toilets. The idea of extending Unilever's knowledge of killing germs to drinking water quickly gained ground. As the idea transformed into a stand-alone project, Jain found that it became his full-time job, and he built the water team from the ground up.

While the rest of HUL was organized functionally, with divisions such as human resources (HR) and supply chain that supported all product categories, the water initiative had a cross-functional team to encourage a way of working akin to an entrepreneurial start-up company. In general, there was an innovation team, a partner function team, and a business team (see **Exhibit 10** for the organization structure of the water team).

Jain, who reported directly to the CEO, noted, "Knowing that we have the safety net of the larger corporate company allowed us [the water team] to fly." The water team also did not follow HUL's normal career curve of moving people every few years to broaden their experience base.

Jain elaborated:

> For a start-up business unit we needed people to stay longer. We retained a few key people for several years to avoid re-inventing the wheel. They knew what had worked in the past and what hadn't—so they were much further up the learning curve. Of course, longevity is inextricably linked with both personal commitment and personal accountability—and both of these are crucial for a start-up business to succeed. We celebrate success, but we've learned to thrive in failure. When a person has lived through many failures, breakthroughs start to inevitably flow—because this person no longer fears failure, and is always willing to operate on the edge. Big breakthrough innovations are not created out of a single solitary a-ha moment. There has to be an ah-ha moment every day—and for that to happen creative

inspiration is necessary but not enough—you need enormous commitment and you need to have the willingness to stay the course.

Jain summed up the team's advantages:

> What gives this team its sharp edge is the belief that in protecting people's lives we make a really big social difference. Working in a corporate environment, of course, the two Cs of cash and career are important for people—but what we want to do is to add the third big C of cause. When people are driven by their own cause-inspired commitment, there is little doubt that they will fulfill their full innate potential and perform accordingly. We have done this reasonably well so far while we were a small business—the challenge is to continue to do this as we become much larger.

Building a new business required addressing new sets of challenges at every stage of the business development. For example, significant HR innovation was required to build and manage the entrepreneurial spirit of the direct demonstration system as it grew to nearly 10,000 outsourced people.

Converting Consumers

HUL faced several challenges in gaining product acceptance. When it first entered the market, boiling was the preferred method of water purification. Since POU technologies were new, apprehension about the quality of water from purifiers was high, and consumer receptivity during test runs was low.

The water team decided that it would not market Pureit as a public health product, but rather as a consumer durable. Jain explained the rationale behind HUL's decision to "pull the aspiration trigger":

> Rural India has changed. No matter how poor, Indians in rural areas aspire to own a TV. Today cell phones are an additional aspiration. To get sustained use from consumers, we had to pull the aspiration trigger. We want consumers to keep the product in their living room, near the TV . . . and not necessarily near the tap . . . maybe a third of our consumers do that now.

HUL used an adapted version of Living Standards Measure (LSM)[k] for segmenting its consumers—this was akin to the more commonly used Socio-Economic Classification of consumers in India (see **Exhibit 11**). The Pureit proposition was, "Only Pureit gives me the confidence that my family is completely protected with water that is as safe as boiled water." HUL based its marketing strategy on brand outreach (through mass media and customer contact), DTH sales channels, and doctor partnerships.

HUL promoted Pureit strongly as a Hindustan Unilever product. The company's television commercial roadmap was a three-stage process for increasing brand relevance: In the short term, it contextualized current boiling behaviors. In the medium term, its objective was to drive Pureit's association with safety and health to build the credibility of Pureit's "as safe as boiled water" brand proposition. Finally, in the long term, HUL aimed at building up consumer confidence in the idea

[k] The South African Advertising Research Foundation's (SAARF's) Living Standards Measure (LSM) was a widely used marketing research tool used for segmenting the South African population into 10 LSM groups (1 was lowest; 10 was highest), based on wealth access and geographic indicators—i.e., usage and ownership of 20 select goods and services ranging from hot running water, domestic workers, and washing machines to area of residence. See http://www.saarf.co.za/LSM/lsms.htm.

that only Pureit provided complete protection from harmful germs (see **Exhibits 12a** and **12b** for select print advertising campaigns).

Go-to-Market Strategy

The major channels for the POU systems market in India were direct sales (50%) and dealers/distributors (40%), because high-priced UV and RO systems required push marketing, including consumer education, for making a sale.[23] Initially, HUL focused on educating consumers, for which the company built an expansive DTH network, and also on building awareness among doctors. In the last year, however, the company had begun opening up the retail channel.

In the case of Pureit, HUL's initial sale was that of the purifier, followed by the sale of consumables ("Germ-Kill Kits") that households would replace at periodic intervals. The cost and replacement time of the Germ-Kill Kits varied across models: For Compact, the Germ-Kill Kit lasted for 1000 liters and cost $6; for Classic and Autofill, the Germ-Kill Kit lasted for 1500 liters and cost $8; for Marvella, the kit lasted for 2250 liters and cost $14. In addition, HUL also sold a longer-life kit for the Classic and Autofill models that cost $11 and lasted for 2250 liters. Consumers could get the Germ-Kill Kit from a retail store or they could call a customer care call center and place an order, which the closest sales office (called a "Safe Water Zone") in that area would fulfill. Thus, the kits necessitated post-sale contact with the consumer, a distribution model that was new for HUL.

HUL's strength lay in its retail network of small mom-and-pop stores selling consumer non-durables. HUL also had considerable advertising muscle. However, in this new-to-company category, HUL believed that its traditional marketing methods would not be appropriate. Since a water purifier was a family purchase decision, both husband and wife needed to be convinced; this could not be effectively accomplished on the basis of only a 30-second advertisement. Therefore, for market entry, HUL pursued the education route, training demonstrators as "water experts" who would educate consumers and give them a direct, one-on-one, experiential brand connection. The enormity of setting up a direct demonstration system was daunting: the company needed about 10,000 people on the road, but all of HUL had just 15,000 employees. HUL outsourced the task of scaling up its DTH to external partners, though it retained some control over the remuneration structure to keep it at levels commensurate with that of HUL's own employees. The outsourced partners were responsible for profits, penetration, selling, and service. Since HUL targeted lower- and middle-income groups, its demonstrators were typically high school graduates, while EFL, which targeted upper-middle-income groups and above, hired people with undergraduate degrees. Typically, an HUL demonstrator started on a monthly salary of $120 to $140, with performance incentives in the range of $30 to $40. Supervisors earned between $180 and $260, with performance incentives ranging from $150 to $200. EFL's people received, on average, 30% more than that of HUL. In the last year HUL had some success in opening up the retail route.

As a result of the intensive field activity, by March 2010, HUL had penetrated 1,500 towns and cities and sold 3.7 million units across Classic, Auto-fill, and Compact, protecting roughly 15 million people.

Figure A Pureit Sales Volume by Channel

Homes Protected (in millions)	Up to 2008	Jan 2009–Mar 2010
Direct-to-home channel	2.1	1.0
Retail channel	-	0.5
Partnership channel		0.05
Total	2.1	1.6

Source: Company documents.

Direct-to-Home Demonstration System

HUL built up a 10,000-strong demonstrator team in partnership with a range of external agencies. Broadly, this demonstrator force comprised four kinds of water specialists who created an immersive brand experience for consumers, providing them with the opportunity to touch, feel, experience, and buy the product. The demonstrator team included:

- Cold Call Pureit Water Experts (CCPWEs), who demonstrated via DTH cold calls; these experts typically visited about 40 households per day.
- Outreach Pureit Water Experts (OPWEs), who demonstrated via kiosks.
- Clinic Pureit Experts (CPWEs), who created awareness among doctors and other key opinion makers.
- Customer Care Experts (CCEs), who provided after-sales services.

The team also included Pureit Water Experts (PWEs), who worked in small towns and handled all channels except after-sales services; this team included Rural PWEs, who worked only in rural areas, and Retail PWEs, who serviced general and modern format retail stores. To ensure effective supervision, there would be a team leader with a team of typically eight to ten front-line demonstrators.

The same demonstrator who educated the consumer also installed the Pureit purifier at the consumer's home after it had been sold. About a month later, the demonstrator would again visit the home to check on product experience, find out about problems with installation or the product, and obtain referrals and recommendations for contacting the consumer's friends and relatives. Thus, the experiential brand connection was enhanced by a relationship-building initiative.

Marvella, however, posed additional distribution challenges. Because Marvella was a high-end product for more affluent consumers, only "Champion PWEs" (star performers) were identified for direct selling. Further, HUL had to expand its CCEs at each Safe Water Zone because Marvella required specialized plumbing and a wall-mounted installation. Thus, the rollout of Marvella beyond the currently targeted towns (towns that had a population greater than 500,000) depended on the speed with which the after-sales support team was created. In towns that had a population below 200,000, HUL retained licensed service providers of other durables companies to install Marvella in return for a fee per installation.

Doctor's Partnership Program

HUL built brand authority through its "Protecting Lives" program, in which its Pureit Clinic Experts (PCEs) reached out to 10% of the doctors and other key opinion makers in urban India. This program was set up because HUL was virtually creating a new product category—and it was therefore important that awareness and conviction were also created among doctors regarding the efficacy of Pureit.

Retail Channel

Retail sales only accounted for about 40% of total sales in the POU industry.[24] HUL offered 8% margins to retailers and 7% to distributors, which was similar to that offered by Tata for Swach, but was lower than EFL's 14%, which included additional trade schemes. EFL had recently reached an agreement with a cooking gas distributor and had begun retail sales at drug stores, general

merchandise stores, and consumer durables stores. Kent followed a retail-dominated route to market, but also used direct sales. As consumer awareness increased, newer entrants such as Philips and Whirlpool chose to solely use the retail route.

Margins were a critical issue. As a Pureit sales manager explained, "Although HUL's retail margin at 8% is lower than that offered by its competitors, for example Eureka Forbes's 14%, our retail sales are growing while direct-to-home sales are stable." He underscored HUL's challenge in differentiating Pureit from its competitors at the retail store:

> While EFL gives higher margins to retailers to encourage push marketing, HUL does consumer activation programs and generates brand pull. Therefore mom-and-pop stores selling typical Indian-style steel cookware, who earlier didn't want to stock Pureits, now did because of consumer pull. But retailers don't take time to educate consumers. For example, they didn't ask about the size of the customer's family to help them determine the size of the device to buy. Now they do.

HUL believed that relying solely on its DTH channel would limit its growth, and in the past year the company had turned its attention to building up its retail channel. However, because HUL had only one product in the durables category, it had to work hard to build influence with white goods retailers. Typical retailer margins for large white goods such as televisions and refrigerators were 8% to 12%, while for small appliances such as irons and vacuum cleaners it was 16% to 18%. So far, the water purifier market had been dominated by high-end products that relied predominantly on direct selling networks. With the recent entry of high-end brands including Philips, water purifiers had made a limited entry into retailer outlets. However, offering 8% retailer margins, Pureit received poor product placement at retail outlets. Thus, HUL first focused on brand-building for creating consumer pull, and started opening the retail channel only in late 2009 when it managed to persuade retailers to settle for the lower margins that HUL offered. Also, as HUL operated both the DTH and the retail channel simultaneously, the PWEs in the DTH system were under pressure to close a sale in the first call to a home, or else the consumer would likely visit a retailer after the PWE visit and make the final purchase.

Partnership Channel

To accelerate the penetration buildup in rural areas, HUL wanted to supplement the retail channel with a demonstration-based route to market as well. But creating a DTH network for rural areas was not feasible. Instead, HUL sought to leverage its entrepreneurial network of underprivileged rural women under Project Shakti. But this wasn't easy. The water team's partnership director noted the double challenge:

> The Shakti network's circle of influence generally covers low-income consumers, where affordability constraints are high . . . on the other hand, to target middle or affluent consumers in rural India, the Shakti women need to be given significant training and capability inputs to equip them with the necessary technical and communication skills.

HUL had also been trying to develop partnerships with NGOs, banks, and government agencies. But the struggle here was creating partnerships and ways of working that permitted the leveraging of their partners' infrastructure for creating awareness and imparting product knowledge. For the bottom-of-the-pyramid market this could be an important enabler, and HUL had achieved some success with small-scale pilots. And despite most NGOs' initial discomfort with working with large multinational companies, HUL had forged relationships with many NGOs over the last few years. As

Jain pointed out, "What we are seeking to do is to create a sustainable and scalable health intervention model. It is important that this is not based on philanthropy as it would otherwise become self-limiting."

Conclusion

Pureit had been a high-risk financial project for HUL. It had had a long gestation and had incurred large up-front costs running into several million dollars (USD). While the company did not report the profitability of the business, it was known that Eureka Forbes earned roughly 50% gross margins on its Aquaguard line of higher-end water purifiers. HUL's goal was to generate profits once a significant installed base of consumers had been established. Jain had headed the team from its inception in 2000, and so far had run it like a venture capital company. Now with Tata Swach entering the market at a lower price point, the increase in private water purifying plants, and the possible launch of Procter and Gamble's purifying sachets, Jain wondered how HUL would scale up its presence at the bottom of the pyramid. There were hundreds of millions of people that needed to be protected at the lower end of the market where penetration was low, but HUL needed to find ways of penetrating deeper within rural India. In such rural markets, how would it sell the device and then track purchases of the Germ-Kill Kits, which were a key component of the continued usability of their purifier?

At the other end of the market, the growth and higher potential profitability of Marvella made for a significant opportunity for HUL, but intense competition was already driving down prices and margins. For Marvella, HUL's DTH system needed critical changes, including upgrading the demonstrator profile and compensation. Jain wondered how HUL would straddle both the low and high ends of the market and create two diverse systems of reaching out to its consumers. How would the team build new competencies at the high end of the market to compete head-on against stalwarts like EFL, Kent, and Philips?

Typical durables companies had a business model wherein consumers would call them if there was a problem. For Pureit, HUL had tried to reach out and directly contact consumers. But driving growth and service delivery through DTH was becoming more difficult as the scale increased. Growth through the retail trade didn't have the challenges that the DTH channel had, but the retail channel was becoming increasingly crowded and competitive.

HUL's contrasting challenges at both ends of the consumer spectrum were summed up by the water team's partnership director:

> At the bottom of the pyramid we are fighting apathy and ignorance for which education is the only route, and only a company with really long-term commitment, like HUL, can even try to penetrate. However, at the top end of the market, potential volumes are lower [compared to the bottom of the pyramid]. We have to build the skills to penetrate this market, plus margins are also getting squeezed as competition intensifies and prices of high-end products continue to drop.

Meanwhile, Unilever had firmed up its ambitious intent to launch Pureit globally in Latin America, Africa, and Southeast Asia (Indonesia and Bangladesh) with the objective of protecting 500 million lives by 2020. Jain and his team now had to gear up to build the appropriate global deployment capability and to build water businesses in other countries. In the meantime, the imperatives of continuing to rapidly grow the Indian business remained—alongside the significant additional challenge of financially turning around the business in the near term.

Exhibit 1 Income Statement (USD million)

	31 Dec. 2007	31 Mar. 2009[a]	31 Mar. 2010
INCOME			
Sales (net of excise)	3,015.45	4,456.76	3,861.80
Other income (current year, net of mark-to-market loss)	91.80	121.33	74.78
Income Total	**3,107.25**	**4,578.09**	**3,936.57**
EXPENDITURE			
Operating expenses	(2,608.08)	(3,869.17)	(3,301.82)
Depreciation	(30.85)	(43.47)	(41.73)
Interest	(5.76)	(5.75)	(1.62)
Expenditure Total	**(2,639.69)**	**(3,918.40)**	**(3,345.17)**
Profit before Taxation and Exceptional/Extraordinary Items	**467.56**	**659.70**	**591.41**
Taxation for the year:			
– Current tax	(72.66)	(118.40)	(138.49)
– Deferred tax	(8.62)	(1.03)	(4.38)
– Fringe benefit tax	(8.75)	(8.30)	--
– Adjustments of previous years (net)	1.10	10.51	9.12
Profit after Taxation before Exceptional/Extraordinary Items	**378.64**	**542.48**	**457.65**
Exceptional/Extraordinary Items (net of tax)	38.51	3.16	12.92
Profit before Minority Interests	**417.15**	**545.64**	**470.57**
Minority interests	(0.87)	(1.18)	(1.73)
Net Profit	**416.28**	**544.46**	**468.83**
Balance brought forward	139.19	38.46	112.63
Loss of an erstwhile subsidiary transferred to General Reserve on amalgamation	33.48		
Available for Distribution	**588.95**	**582.92**	**581.47**
Dividends	(429.59)	(355.33)	(308.25)
Tax on Distributed Profits	(77.41)	(60.61)	(51.58)
Transfer to General Reserve	(43.48)	(54.35)	(47.87)
Balance Carried Forward	**38.46**	**112.63**	**173.50**

Source: Company documents.

[a]15-month period ending March 21, 2009.

Exhibit 2 Market Overview 2009

	USD (million)	Percentage
Market by purifier/service:		
Purifiers	380	84
Service, consumables	70	16
TOTAL	**450**	**100**
Market by technology types:		
Ultraviolet	280	62
Reverse osmosis	80	18
Biocide/resin/filter	90	20
TOTAL	**450**	**100**

Source: Company documents.

Exhibit 3 Overview of Indian Consumer Markets

	Rural	Peri-Urban*	Urban
Defined by number of inhabitants	<5,000	5,000 to 100,000	>100,000
Total population (million)	815	129	344
Total savings per household per annum (USD)	667	1,389	1,750
Total expenditures per household per annum (USD)	1,820	3,842	4,493

Source: Company documents.

* Peri-urban: Area immediately adjoining an urban area.

Exhibit 4 Comparison of Water Purification Methods

	Boiling water	Pureit Classic and Compact (biocide-cum-filter technology-based)	Other biocide, resin, and filter technology-based products	Pureit Marvella (biocide-cum-filter technology-based)	Ultraviolet technology-based products	Reverse osmosis technology-based products
• Safety from germs						
• Virus kill (as per U.S. EPA criteria)	✓	✓	x	✓	✓	✓
• Bacteria kill (as per U.S. EPA criteria)	✓	✓	x	✓	✓	✓
• Parasite removal (as per U.S. EPA criteria)	✓	✓	x	✓	✓	✓
• Has an end-of-life indicator	✓	✓	x	✓	x	x
• Has an auto-shutoff system	x	✓	x	✓	x	x
• No need for electricity	✓	✓	✓	✓	x	x
• No need for pressurized tap water	✓	✓	✓	x	x	x
• Good water taste	x	✓	✓	✓	✓	✓
• No water wastage	x	✓	✓	✓	✓	x
• Price range ($)	Cooking gas used	$22, $44	$16–55	$150	$125–230	$170–710
• Need for technical servicing	✓	✓	✓	✓	x	x
• Low in-use energy consumption	x	✓	✓	✓	x	x

Source: Company.

Exhibit 5 Models and Price Points: Eureka Forbes Ltd. and Exchange

Model Name	Technology	Price (USD)
Eureka Forbes' Aquaguard brand*		
Aquaguard Classic	Ultraviolet	161
Aquaguard Compact	Ultraviolet	169
Aquaguard Total Atom	Reverse Osmosis	174
Aquaguard Booster	Ultraviolet	200
Aquaguard Hi-Fio	Ultraviolet	206
Aquaguard Total INFINITI	Ultraviolet	208
Aquaguard Total Reviva	Reverse Osmosis	217
Aquaguard Total RO PROTEC+	Reverse Osmosis	293
Aquaguard Total Sensa	Reverse Osmosis/Ultraviolet	389
Aquaguard Integra Hi-Life	Reverse Osmosis	433
Eureka Forbes' Aquasure brand in the retail channel		
Aquasure (countertop)	Resin	39
Aquasure Aquaflow	Ultraviolet	126
Aquasure Ivory	Ultraviolet	152
Aquasure Crystal	Ultraviolet	166
Ion Exchange**		
Solar	Ultraviolet	163
Sapphire	Reverse Osmosis	326
Kitchen Mate	Reverse Osmosis	348
Ultimate	Reverse Osmosis	369
Pristine	Reverse Osmosis	369
Intello	Reverse Osmosis	707

* Source: Eureka Forbes Company website, http://www.eurekaforbes.com/water-purifiers.aspx, accessed October 2010.

** Source: Zero B Company website, http://www.zerobonline.com/pro6.html, accessed October 2010.

Exhibit 6 Market Segmentation (segments, players, technologies)

	2009 volume ('000)	US $ (m)	Key players (not including regional/small players)	Technologies
RO purifiers	250	80	Kent, Eureka Forbes, Whirlpool	Reverse osmosis
UV purifiers	1150	280	Eureka Forbes, Philips, Ion Exchange, Kent	Ultraviolet
Countertop purifiers	2100	90	Hindustan Unilever, Eureka Forbes, Kent, Ion Exchange	Biocide-based, or Resin-based, or Filter-based
	3500	450		

Source: Company documents.

Exhibit 7 Purifier Performance (2009)

Company	Coverage	Brand	Price Range (USD)	Units sold (million)	Average price (USD)	Purifier sale (USD million)
Eureka Forbes					190	190
	National (mostly urban, some rural)	Aquaguard RO	170-430	0.6		
		Aquaguard UV	200-210			
		Aquasure-UV	125-170	0.4		
		Aquasure-countertop	42			
Hindustan Unilever	National (urban and rural)	Pureit	44	1.3	44	57
Kent	National (urban)			0.17	285	50
		Kent RO	300			
		Kent UV	150			
Philips	National (urban)	Philips UV	160-230	0.05	170	9

Source: Company documents.

Exhibit 8 Product Pictures

Unilever Pureit Range

Compact

Classic

Autofill

Marvella

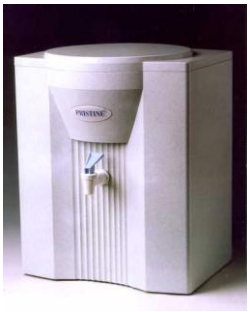
Other Key Brands in the Market

Tata Swach

Aquaguard Total

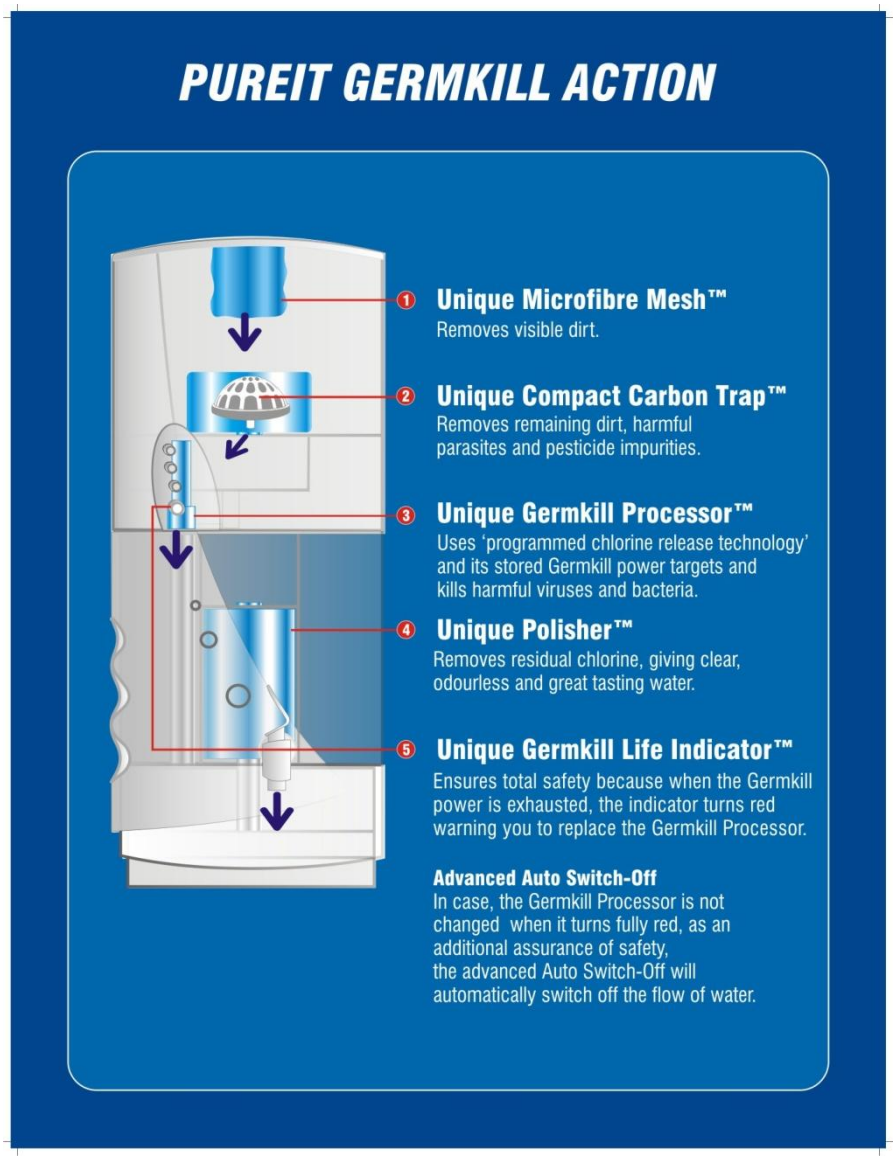
Kent RO

Ion Exchange RO



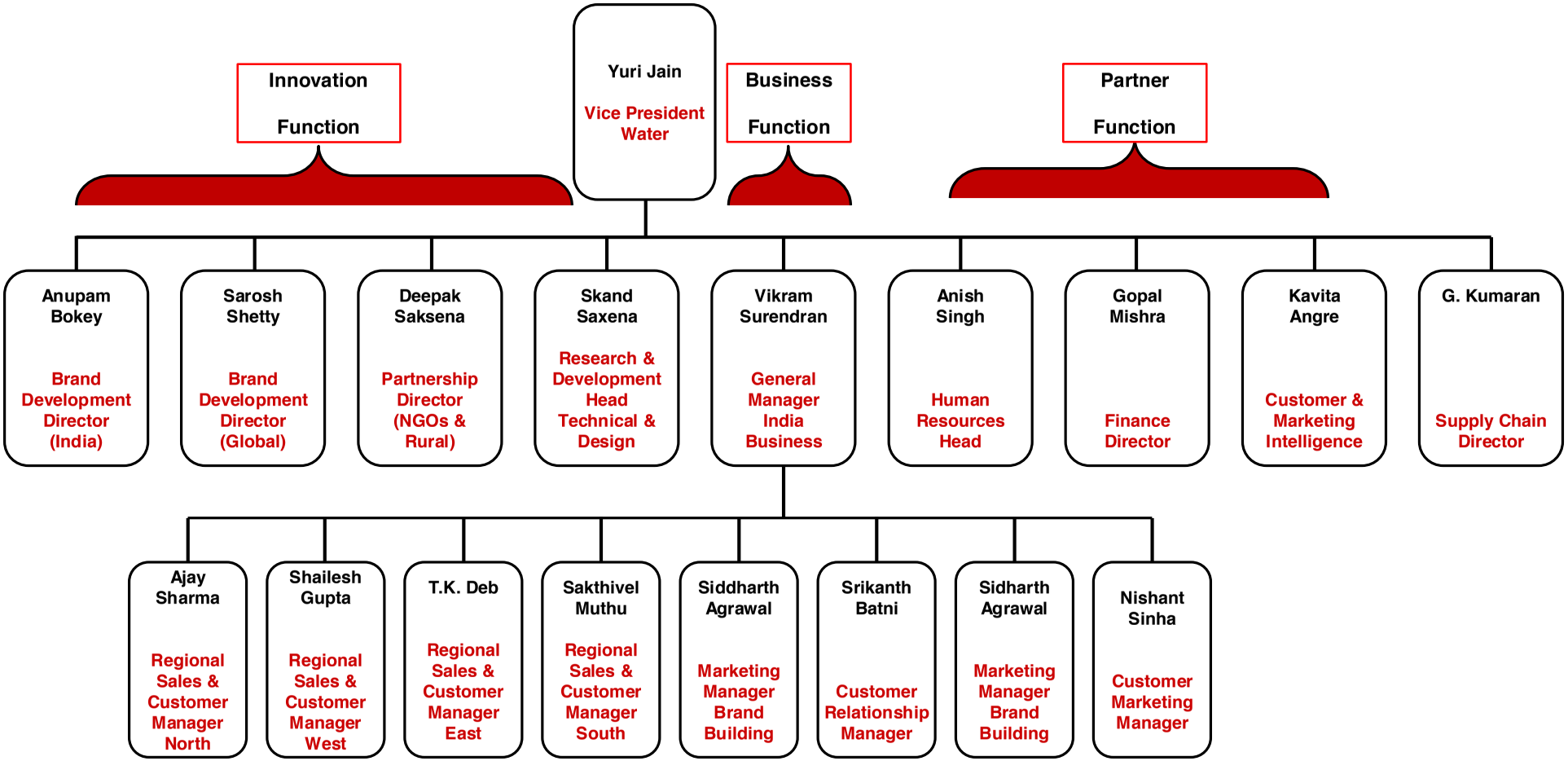
Source: Company documents.

Exhibit 9 Pureit—Purifier Detail



Source: Company documents.

Exhibit 10 Water Team: Organization Structure



Source: Company documents.

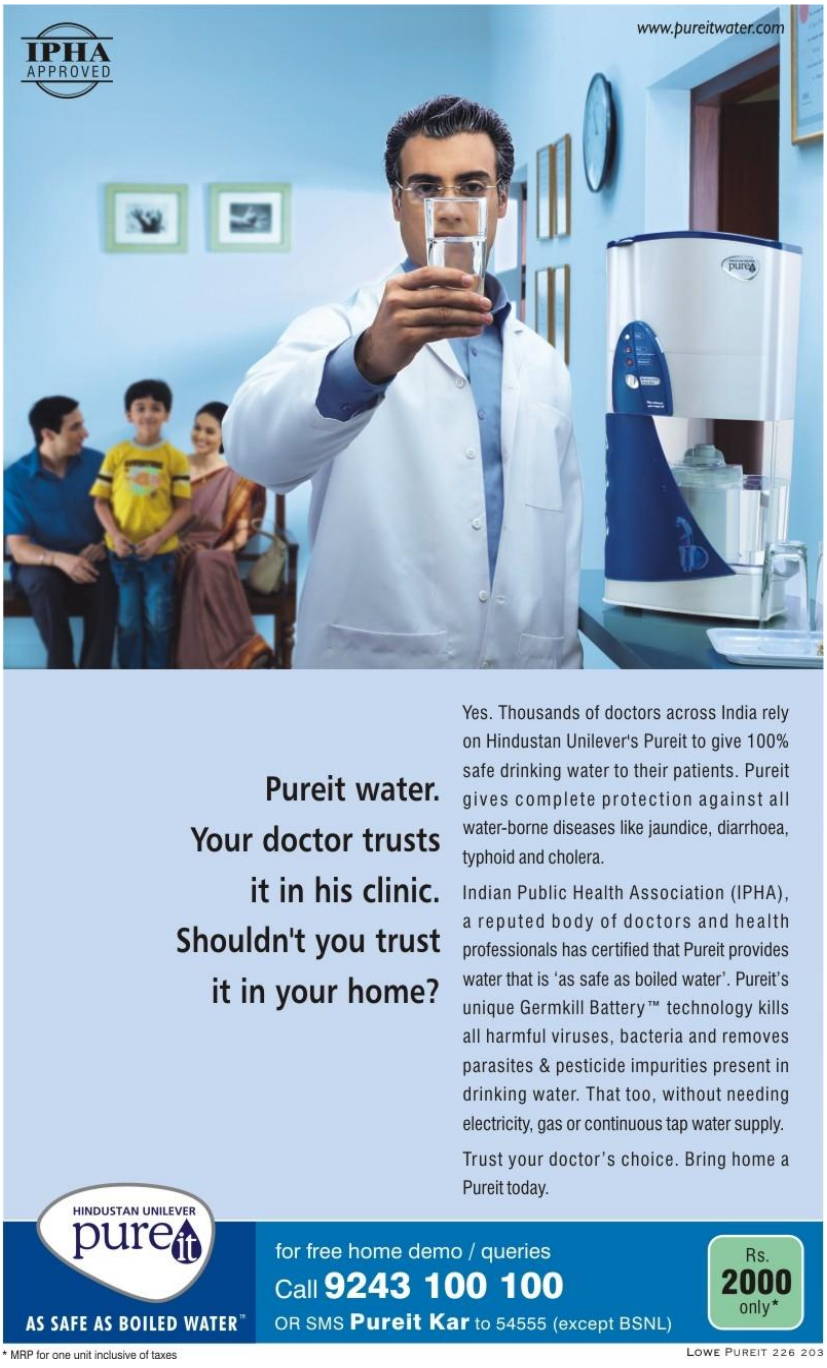
Exhibit 11 Consumer Segmentation in India

Consumer segments in India

	Typical consumer description	Number of homes (million)		Monthly household income (USD)
Urban			% of urban	
SEG A	- Typical education of chief wage earner : College-level - Typical profession : Business/officer/excutive	7.0	10	224-341
SEG B	- Typical education of chief wage earner : Secondary school-level - Typical profession : Clerical/supervisory	11.2	17	128 - 170
SEG C	- Typical education of chief wage earner : Secondary school-level - Typical profession : Shop owner/small trader	13.7	20	106
SEG D	- Typical education of chief wage earner : Primary school level - Typical profession : Shop owner/small trader	15.6	23	75
SEG E	- Typical education of chief wage earner : Primary school level/illiterate - Typical profession : Unskilled worker	19.6	29	51-63
		67.1	100	
Rural			% of rural	
SEG R1	- House type : Permanent house - Education of chief wage earner : College-level - Typical profession : Farmer with his own land	6.7	4	118
SEG R2	- House type : Permanent house - Education of chief wage earner : Primary/secondary school level - Typical profession : Small farmer/shop owner	18.8	12	80
SEG R3	- House type : Temporary house - Education of chief wage earner : Primary school/illiterate - Typical profession : Small business e.g. poultry	63.2	41	50
SEG R4	- House type : Temporary house - Education of chief wage earner : Illiterate - Typical profession : Agricultural workers	67.0	43	36
		155.7	100	

Source: Company documents.

Exhibit 12a Print Advertising 1



Source: Company documents.

Exhibit 12b Print Advertising 2

Challenge open/accepted til 31st August 2009 or the first successful claim, whichever is easier. For complete details, visit 222.pureitwater.com or the Pureit Safe Water Zones in your city. **MRP inclusive of all taxes for one unit.

Source: Company documents.

Note: Rs. 1 crore = USD 217,391

Endnotes

[1] Unilever website, http://www.unilever.com/aboutus/introductiontounilever/unileverataglance/?WT.LH NAV=Unilever_at_a_glance, accessed June 14, 2010.

[2] Company sources and HUL website, http://www.hul.co.in.

[3] Adam Bluestein, "Blue is the New Green," Inc.com, October 1, 2008, http://www.inc.com/magazine/ 20081101/blue-is-the-new-green.html, accessed February 22, 2010.

[4] "Water for Life," World Health Organization and UNICEF report, 2005, http://www.who.int/water_ sanitation_health/waterforlife.pdf, accessed August 1, 2010.

[5] Peter H. Gleick, "Basic Water Requirements for Human Activities: Meeting Basic Needs," *Water International* 21, no. 2 (1996): 83-92.

[6] "Charting Our Water Future: Economic Frameworks to Inform Decision Making," 2030 Water Resources Group (The Barilla Group et al., 2009).

[7] UNICEF Country Statistics, http://www.unicef.org/infobycountry/india_statistics.html, accessed August 8, 2010.

[8] "A Special Report on Water: Enough is not enough—It must also be clean," *The Economist*, May 20, 2010, http://www.economist.com/node/16136260?story_id=16136260, accessed September 1, 2010.

[9] Company documents.

[10] Bluestein, "Blue is the New Green."

[11] "Won't Hold Water," *Business Today*, June 27, 2010, pp. 28-29.

[12] Suriender S. Jodhka, "Fields of Dreams," *India Today*, August 10, 2010, http://indiatoday.intoday.in/ site/Story/108804/fields-of-dreams.html?complete=1, accessed September 1, 2010.

[13] Company documents.

[14] Saumya Roy, "Pure Water, Dirty Linen," *Forbes,* August 2009, http://www.forbes.com/2009/12/08/ forbes-india-water-purifier-germkill-chlorine-competition.html, accessed August 6, 2010.

[15] Eric D. Beinhocker, Diana Farrell, and Adil S. Zainulbhai, "Tracking the growth of India's middle class," *McKinsey Quarterly*, August 2007, pp. 51-61.

[16] Bluestein, "Blue is the New Green."

[17] Baytel Associates, "Executive Briefing: The Indian Market for Home Water Products," 2010, from company documents.

[18] Jayashree Maji, "It's Raining Competition in Water Purifiers Market," April 13, 2010, New Delhi, http://www.mydigitalfc.com/companies/it's-raining-competition-water-purifiers-market-806, accessed August 3, 2010.

[19] World Business Council for Sustainable Development, Proctor and Gamble case study: "Treating Water at Its Point of Use," 2006, http://www.wbcsd.org/web/publications/case/png-pur.pdf, accessed March 17, 2010.

[20] E. Kumar Sharma, "Liquid Riches," *Business Today*, June 27, 2010, p. 62.

[21] "Hindustan Unilever targets rival Eureka Forbes with new product," *Economic Times*, June 9, 2010, http://economictimes.indiatimes.com/articleshow/6025631.cms, accessed June 21, 2010.

[22] Company documents.

[23] Company documents.

[24] Company documents.