

Reverse innovation

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Reverse Innovation Reverse Innovation, the term coined by two Dartmouth University Professors Vijay Govindarajan and Chris Trimble refers to any innovation that is first introduced in the Developing countries with an intention to later launch it in the western or developed markets. Reverse Innovation is also popularly known as Trickle-up Innovation. It is so called because generally, all innovations have first been made in developed countries and then brought to developing economies.

So far companies have been starting their globalization efforts by removing expensive features from their established product, and attempt to sell these de-featured products in the developing world. This approach, unfortunately, is not very competitive, and targets only the most affluent segments of society in these developing countries. Reverse innovation, on the other hand, leads to products which are created locally in developing countries, tested in local markets, and, if successful, then upgraded for sale and delivery in the developed world.

The Evolution of Reverse Innovation: A Historical Perspective The globalization journey of American multinationals has followed an evolutionary process which can be seen in distinct phases. Phase 1 — Globalization — Multinationals built unprecedented economies of scale by selling products and services to markets all around the world. Innovation happened at home, and then the new offerings were distributed everywhere. Phase 2 — Glocalization — In this phase, multinationals recognized that while Phases 1 had minimized costs, they weren't as competitive in local markets as they needed to be.

Therefore, they focused on winning market share by adapting global offerings to meet local needs. Innovation still originated with home-country needs, but products and services were later modified to win in each market. To meet the budgets of customers in poor countries, they sometimes de-featured existing products. Phase 3 —Local Innovation — In this phase, the first half of the reverse innovation process, multinationals are focusing on developing products “ in-country, for country. ” They are taking a “ market-back” perspective.

That is, they are starting with a zero-based assessment of customer’s needs, rather than assuming that they will only make alterations to the products they already have. As teams develop products for the local market, the company enables them to remain connected to, and to benefit from, global resource base. Phase 4 — Reverse Innovation — If Phase 3 is “ in country, for country,” Phase 4 is “ in country, for the world. ” Multinationals complete the reverse innovation process by taking the innovations originally chartered for poor countries, adapting them, and scaling them up for worldwide use.

Of course this is a simplified view of the world, but in essence it holds true. Now, more than ever, success in developing countries is a prerequisite for continued vitality in developed ones. Why Reverse Innovation is so important Developing countries like India, today, with their increasing disposable incomes, and the largest and ever surging middle class with higher than before spending capacities, is now a very lucrative and potent target market for many global companies to venture into and capitalise on or to establish a stronger hold.

Though the middle class in India today can afford to spend an extra buck for their added necessities and interests, they still find the products developed in the western economies out of reach, highly priced or unaffordable. Clearly, the products developed in the western or developed economies for their average income families would find very less consumers in countries like India despite having the world's largest middle class population, simply because Indian Consumers' price to features requirements of products do not match with that of the products developed in western markets for their average income families.

Simply de-featuring the product and introducing the less featuristically loaded product model in the emerging markets would not attract them any more either. FIVE SUBSTANTIAL NEEDS GAPS In fact, the needs and opportunities in the developing world are so different from those in the rich world that the very first requirements for reverse innovation success are humility and curiosity. You must let go of what you've learned, what you've seen, and what has brought you the greatest successes. In fact, it is best to assume that you have just landed on Mars.

Yes, buyers in the developing world have less money— but that is only the obvious beginning. The differences run much deeper. In fact, there are at least five enormous gaps that separate needs in the rich world from those in the developing world: the performance gap, the infrastructure gap, the sustainability gap, the regulatory gap, and the preferences gap. Performance Gap Simply put, with fewer dollars in hand, buyers in the developing world are willing to accept lower performance. This sounds simple enough, but it is not as straightforward as it at first appears.

Consider a typical “good-better-best” rich-world product line. When global corporations headquartered in the rich world export to the developing world, the tendency is to focus just on the “good” offering, or perhaps even to water down the “good” offering a little bit further, from “good” to “fair,” to achieve the lowest possible price point. This seems sensible enough on the surface. The problem is that a modest price cut — say, 10 percent — is not nearly enough to make a difference to mainstream customers in the developing world, who may have only one-tenth the income of buyers in the rich world.

Such low incomes, however, do not mean that developing world customers do not need innovative products. Indeed, what they need is radically reinvented designs that deliver at least decent performance at an ultra-low price. But there is no way to deliver 50 percent performance at a 15 percent price by diluting existing offerings. The only way to get there is to start from scratch, considering entirely new technologies. Infrastructure Gap In the rich world, most every citizen has access to modern transportation, communication, and energy systems, plus schools, hospitals, banks, courts, and more.

In the developing world, most infrastructure is mostly still under construction. This does not mean, however, that developing nations can only gradually catch up. Precisely because they are building from scratch, they can invest in the most modern technologies. Meanwhile, the rich world will only invest as existing infrastructure reaches replacement age, and, even then, will be constrained by the necessity to make any new systems compatible with what already exists. As a result, developing nations are hot,

new construction markets, while rich nations are tepid maintain, repair, and replace markets.

The infrastructure gap, however, affects much more than infrastructure products and services. It affects any offering that relies on infrastructure — anything that plugs in, connects to a network, or moves from place to place, and more. Rich world offerings are designed with the implicit assumption that they will be consumed by those with access to rich-world infrastructure. Logitech’s mouse was designed for use in the office, not in the living room, because people in the rich world still largely “consume” video entertainment via cable or satellite, with no mouse in sight.

Such offerings do not export well, so an innovation strategy is a must. New offerings must be designed with the developing world infrastructure in mind. In major cities, this may mean an enviable, next-generation infrastructure. In rural areas, it may mean no infrastructure at all. When GE designed an ultra-low-cost portable EKG machine for rural India, for example, one of the top considerations was long battery life. Sustainability Gap Worldwide, as the economy grows, the conflicts between economic vitality and environmental sustainability are likely to become more severe.

That said, the pressures will not rise uniformly. In many cases, the intensity of sustainability issues are highest in the developing world. Winning in emerging markets requires recognition of these differences. In certain cities in China, for example, air pollution problems are extreme. As such, it is hardly a surprise that China is poised to take the lead in electric cars. Regulatory Gap When regulations function appropriately, they eliminate business behavior that is at odds with societal good.

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They keep consumers safe and markets fair. That said, when regulations become too complex, captured by vested interests, or technologically out-of-date, they can become needless barriers to innovation. Regulatory systems in the rich world are the result of decades of development while those in the developing world may be incomplete. Whether this is good or bad from a societal perspective is well beyond the scope of this paper, but the difference can make the developing world a more favourable environment for innovation in certain cases.

Products and services designed around rich world regulations may become needlessly complex or expensive for developing world markets. Preferences Gap The world's great diversity of tastes, preferences, rituals, and habits adds spice to international travel. It also sometimes makes it nearly impossible to achieve full potential in the emerging economies through a simple strategy of exporting existing offerings. PepsiCo, for example, is developing new snack foods, starting with a new base ingredient. Corn is not nearly so ubiquitous in India as lentils, so Pepsi is commercializing lentil-based chips.

Because of these five of enormous needs gaps, the commonplace strategy of trying to win in the emerging economies by making light adaptations of successful rich world offerings is inadequate. Reverse innovation is the antidote, and reverse innovation is clean-slate innovation. It starts with reassessing customer needs from scratch. Dimensions| Summary| Definitinon| Any innovation that is first introduced in the Developing countries with an intention to later launch it in the western or developed markets. Reverse Innovation is also popularly known as Trickle-up

Innovation. Origin| Globalization - Glocalization- Local Innovation- Reverse Innovation| Need| Glocalization has proved effective in reaching the top segments of the market in developing nations—buyers with needs and resources similar to those in the developed world. However, most growth opportunities in emerging markets are not at the top but in the middle market and below, where the gaps between customers' needs and those of their developed world counterparts are enormous. Gradually a new approach is emerging, one that starts with the recognition that if you want to succeed in emerging markets, you must innovate for them.

But that isn't the end of the story. Because the global economy is richly interconnected, innovations developed for emerging economies can be extended to other markets, including those in the developed world. To do this a company must adopt a reverse-innovation mind-set, which means valuing the products that come out of emerging markets and being willing to rethink the underlying assumptions in its developed-world businesses. | Gaps that lead to reverse innovation| There are five phases or 'gaps' that need to be identified and evaluated: performance, infrastructure, sustainability, regulatory and preferences. Examples| Tata Motors - Tata NanoWhile companies like Ford set up its global automobile platform in India and catered to the niche premium segments in India, Tata introduced the Tata Nano for the price conscious consumer in India in 2009. Tata plans to launch Tata Nano in Europe and U. S. subsequently. GE - GE MAC 800GE's innovation on the GE MAC 400 to build a portable low-cost ECG machine to cater to the rural population who cannot afford expensivehealthcare was launched as an improved version a year later in 2009, in U. S. as MAC 800.

Procter and Gamble (P&G) – Vicks Honey Cough – Honey-based cold remedy
P&G's (Vicks Honey Cough) honey-based cold remedy developed in Mexico found success in European and the United States market. Nestle – Low-cost, low-fat dried noodles
Nestle's Maggi brand – Low-cost, low-fat dried noodles developed for rural India and Pakistan found a market in Australia and New Zealand as a healthy and budget-friendly alternative. Xerox – Innovation Managers
Xerox has employed two researchers who will look for inventions and products from Indian start-ups that Xerox can use for North America.

The company calls them as 'innovation managers'
Microsoft – Starter Edition
Microsoft is using its Starter edition's (targeted at not so technically savvy customers in poor countries and with low-end personal computers) simplified help menu and videos into future U. S. editions of its Windows operating system. Nokia – New business models
Nokia's classified ads in Kenya are being tested as new business models. Nokia also incorporated new features in its devices meant for U. S. customers after observing phone sharing in Ghana
Hewlett-Packard (HP) – Research Labs in India
HP intends to use its research lab to adapt Web-interface applications for mobile phones in Asia and Africa to other developed markets. Godrej – Chotukool Refrigerator
In February 2010, Godrej Group's appliances division, Godrej & Boyce Manufacturing Co Ltd test-marketed a low-cost (dubbed the world's lowest-priced model at Rs 3, 250) refrigerator targeted mainly at rural areas and poor customers in India. The product runs without a compressor on a battery and cooling chips.

The company wants to use a community-led distribution model (as an alternative channel of distribution) to push for product growth. Tata – Swacch – World's cheapest water purifier Swacch means clean in Hindi. Tata launched the water purifier – Tata Swacch targeting the rural market in India with the cheapest water purifier in the market. The product does not require running water, power or boiling and uses paddy husk ash as a filter. It also uses silver nanotechnology. It can give purified water enough to provide a family of five drinking water for a year.

The company feels it will open a whole new market. Pepsico – Kurkure and Aliva Pepsi is planning to give developed markets (particularly West Asia) a taste of its salted snack Kurkure (and also another snack Aliva). The product enjoys huge success in India and has become a Rs 700 crore brand within a decade of its launch. The success is attributed to product innovation and a good marketing strategy. E. g. Made from corn, rice and gram flour, zero per cent trans fats and no cholesterol, Rs-3 small packs for pushing sales in the lower-tier towns.

Bharat Forge – Maintenance Management Practice The best practices group at Bharat Forge, a large Indian manufacturer and exporter of automobile components implemented a maintenance management practice it developed in India (developed over 15 to 18 years) in its units it acquired in countries (known for sophisticated engineering) in Germany, Sweden and U. S. The maintenance management process focused on minimizing downtime during machine maintenance and has an advanced information system that predicts problems before they happen.

Consequently, Bharat Forge plants globally are very efficient and have an average down time of less than 10 per cent. KFC - Taco Bell - Yum! Restaurants KFC test-marketed Krushers, a range of chilled drinks in the cold beverages segment in India and Australia and plans to introduce it to other markets. The launch in India was very successful as 'Krushers' accounts for 8 per cent of KFC's beverage sales in India. Yum! Restaurant's Tex-Mex chain Taco Bell has one Indian-designed dessert (tortilla filled with melted dark chocolate) on Taco Bell's US menus.

Husk Power Systems In India, Husk Power Systems brings light to rural population (over 50, 000) by using locally grown rice husks to produce electricity (a unique and cost-effective biomass gasification technology). The company has also received seed capital from Shell foundation in 2009 to scale up operations. LG - Low-cost Air Conditioners (AC) South Korea based LG Electronics (LG) planned to develop low-cost air conditioners targeting the middle and lower-middle classes in India. Their goal was to manufacture air conditioners at the cost of air coolers which were very common.

Renault - Logan Renault designed a low-cost model of its brand Logan for Eastern European markets. It also sold in the Western European markets later on. Better Place - Smart Grid of Battery charging/Swap terminals In Israel, Better Place, a electric vehicle (EV) services provider (creates systems and infrastructure that support the use of electric cars), created an intelligent grid of battery-charging terminals and battery-swap stations. The company is now present in many countries like China, Japan, Australia, the U. S. , Canada, France and Denmark.

GE India - Steam Turbines In 2010, GE's Indian arm tied up with Triveni Engineering and Industries Ltd to manufacture steam turbines in the 30-100MW range. The company plans to then take advantage of lower input costs incurred in manufacturing and export these products to markets in West Asia, Indonesia, Europe and Latin America. Coca-Cola - eKOCool Coca-Cola's Indian arm Hindustan Coca-Cola Beverages introduced eKOCool, a chest cooler operating on solar energy with a capacity to store about 4 dozen 300 ml glass bottles. The innovation also charges a mobile and solar lanterns.

Coca-Cola has plans to pilot the innovation in different cities in India and may be it will introduce it in other developed countries as well. Vodafone - Zoozoos Vodafone, which operates in more than 30 countries has plans to make its lovable characters - Zoozoos go international. Zoozoos the black-and-white animated creatures, in fact are actual human beings and are quite a rage in India where they were launched in marketing ads and look like aliens and speak an alien language. But the brand message is very clear to people across all age groups.

Vodafone has also licensed the characters (and accessories) for retail merchandise across India. Coca-Cola - Minute Maid's Pulpy Minute Maid's Pulpy was extremely popular in China. It was basically an orange juice with pulp. Coca-Cola introduced it in other countries as well. Wal-Mart - Small format stores in Mexico Wal-Mart learnt a lesson in Mexico. Mexican shoppers preferred smaller stores compared to the large format stores Wal-Mart had in the U. S. By 2012, Wal-Mart had 1, 250 small stores (Bodegas Aurrera stores) out of 2, 138 stores in Mexico.

Wal-Mart then opened similar small-format stores in the U. S. and Latin America. Levi's - dENiZEN brand imported to the U. S. In 2010, Levi Strauss & Co. launched its dENiZEN brand jeans in China. This was the company's first brand launched outside of the United States. With success, the brand quickly spread to India, South Korea, Singapore and Pakistan markets. In July 2011, the brand began selling in the U. S. in Target stores. | Variables which Promote Reverse Innovation

1. Income gap- between the consumers of developing and developed countries .
2. Preference Gap- Differing tastes and preferences of consumers of emerging markets
3. Infrastructure Gap- Need of development in the field of Communication Energy transportation. India doesn't have an established telecom infrastructure, for example, so they have gone straight to cellular telephones and skipped the landline. That's resulted in innovation driven by infrastructure gaps.
4. Sustainability Gap- Sustainability issues that are more pressing in poor countries than in rich countries. For instance, airpollution is a big problem in China.

Air pollution is also an issue in the West, but it is a very big problem in China. If China wants to grow, it has to control air pollution. Electric cars, as a result, would be expected to be more attractive to the Chinese.

5. Performance Gap- What consumers in emerging markets need is radically reinvented designs that deliver at least decent performance at an ultra-low price. But there is no way to deliver 50 percent performance at a 15 percent price by diluting existing offerings. The only way to get there is to start from scratch, considering entirely new technologies. .
6. Regulatory Gap- Regulatory systems in the rich world are the result of decades of development while those in the developing world may be incomplete. The difference can make

the developing world a more favourable environment for innovation in certain cases. 7. Growth opportunities in Emerging Markets like India, China 8. Limitations of Glocalization- The top 10 percent of the people in a poor country like India are similar to those in the United States, so you don't need new innovation for them. You can send them products that Americans consume.

But the top 10 percent is a very slim number. The rest of the population requires innovation. How would Reverse Innovation benefit India: Primarily Reverse Innovation would lead to further boom in industrialisation. As more and more Multinationals adopt and opt to produce and/or invent new products in India for local as well as western markets, the Indian economy would witness an increase in FDIs and also the Indigenous Multinationals would instinctively raise their investments to build advanced R; D facilities that would inspire cutting edge innovation and engineering.

It also means the engineers would experience higher employment opportunities, and the consumer market would profit from better products developed to cater to their needs at reasonable prices. Besides OEMs, Reverse Innovation would also lead to the overall development of the entire eco-system comprising of Tier I and II suppliers, technology vendors, educational institutions which support, fortify and facilitate this unprecedented growth through concurrent engineering, providing smart and agile engineering and production solutions to complex challenges, and development of resources.

Reverse innovation is bringing the countries and global markets further closer by fading the global borders to make “ one world, one market”

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phenomenon a more reality. Reverse innovation would provide further impetus to the globalization while increasing the influence of cross economic dependency and making cross border production and marketing viability plausible and effective.