REVERSE INNOVATION AND INCLUSIVENESS IN EMERGING ECONOMIES: CASE STUDY

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ABSTRACT

The clear shift in the focus from developed economy to emerging economies makes frugal and reverse innovation absolutely relevant. By comparing the American and Indian companies approach to achieve sustainable competitive advantage (Johannessen, Olaisen & Olsen, 2001) by serving the bottom of the pyramid through reverse innovation and inclusive growth. This concept holds its grip on sustainability from a mere fact that innovations caused by the frugal approach in the emerging markets later benefits the developed markets.

Keywords: reverse innovation; frugal innovation; inclusive growth; emerging economy; bottom of the pyramid.

“Innovation is to the 21st century economy what mass production was to the 20th century economy – the center of gravity for success” (Mercator XXI, n.d.)

STATEMENT OF THE PROBLEM

As the world is shifting its attention from developed economy to emerging economies like India and China due to demographic dividend, large profitable market economy, huge potential for growth, better spirit of innovation and entrepreneurship, both Indian and Western companies are trying to get foothold in emerging markets. Instead of going for custom fitting of the developed world products to local markets, these companies are increasingly developing products from scratch for the local customers. They are adopting frugal and reverse innovations, by developing affordable products and solutions and later on, introducing them to the developed economies. This paper which is using case study approach initially narrates the relevance of frugal and reverse innovation and goes on to describe the practices of a American MNC (GE) and Indian giants like Piramal, Godrej and
Narayana Health. This paper concludes as to how companies can achieve sustainable competitive advantage (Johannessen, Olaisen and Olsen, 2001) by serving the bottom of the pyramid through reverse innovation and inclusive growth. As a part of reverse innovation, not to underestimate the path breaking frugal products like Godrej Chotu kool, Piramal Sarvajal and Dr.Devi Shetty’s Narayana Heart Centre at Bangalore. (Govindarajan and Ramamurti, 2011; Hang and Subramanian, 2012; Tiwari and Herstatt, 2012a; Zeschky, Widenmayer and Gassmann, 2011, etc.). This paper focuses on capturing how Indian and Western companies are reaching the bottom of the pyramid (Prahalad and Hart, 2002) in the emerging markets by using reverse innovation and later taking the same to the developed markets.

**SIGNIFICANCE AND RELEVANCE OF THE WORK**

In recent years companies like GE has approached global expansion and competitiveness in a unique way by developing new products in emerging markets, when later introduced to their home markets in advanced countries improve their competitiveness and open up new vistas for growth. The products in question are frugal by nature, that is, they are entry level to mid-range products originally intended for consumers in the developing world, and their development is based on delivering value by consuming as little resources as possible. GE has been named the pioneer of this new approach after the development of the first handheld electrocardiogram (ECG) for the rural Indian regions sold today in the U.S. market (Immelt, Govindarajan and Trimble, 2009). Reverse innovation is proposed as a solution for many contemporary problems that companies are facing and it is considered a new wave in the history of innovation and globalization with bright future prospects. What is new about reverse innovation is its core philosophy of innovating from scratch and its reverse direction. Throughout history, almost all innovations have travelled from developed to developing countries (Govindarajan and Trimble, 2009).

As Govindarajan (2012c) states: “Historically, multinationals innovated in a rich country like the U.S. and sold those products in a poor country like India”. The pattern of reverse innovation is actually reversed now, where companies innovate in the developing
world by creating frugal products suitable for the local customers and introduce those products back in the developed world. For this reason, it is said that reverse innovation challenges the conventional thinking about innovation. (Khanna and Palepu, 2010, p.166). As this is a new field of research for most of the companies of the world, Indian companies like Godrej, Piramal and Narayana Health can be path breakers for MNC’s.

Table 1. Socio demographic details

<table>
<thead>
<tr>
<th>Population</th>
<th>Total GDP</th>
<th>GDP Per capita</th>
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<tbody>
<tr>
<td></td>
<td>Size</td>
<td>Sizes ($)</td>
</tr>
<tr>
<td>China</td>
<td>1.3 Billion</td>
<td>1 9 Trillion</td>
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<tr>
<td>India</td>
<td>1.2 Billion</td>
<td>2 4 Trillion</td>
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<td></td>
<td>5.5 Billion</td>
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RESEARCH METHOD

The research focuses on the question of how companies both Indian and Western conducting their frugal innovation execution in emerging markets. The researcher have chosen GE among western companies simply due to its size and global presence (Zeschky, M., Widenmayer, B., Oliver, G., 2011) and Godrej, Narayan HealthCare and Piramal among Indian companies due to their global innovative thinking and a mindset of serving bottom of the pyramid, which is a socially sustainable model. The case study in this paper is an outcome of analysis and evaluation of secondary data (Yin, 1981). The data and information was gathered from secondary sources and respective companies published sources.

For the purpose of collecting extensive data of high quality, the researcher has focused on some of the most frequently used sources of data for case studies suggested by Yin (2009): Documentation, Archival records, Interviews made by others.
RESULTS

Godrej Chotukool

In India 1/3rd of the total food produced is spoiled. One of the major reason, 80% of the people in India do not have access to refrigerators. Only 8% of rural India has access to the refrigerators. This statistics give rise to the innovation of Chotukool, Godrej’s mini refrigerator that runs both on electricity and battery. It is the poster boy for disruptive innovation in India. It has revolutionized the way low income Indian households preserve their food. Low cost, low energy refrigerator provides a great option to the rural India. Chotukool launched in 2008. The basic questions which were pondered by the design team before the launch are as follows:

- Why they are not buying the existing refrigerators?
- What are their needs?
- Do they have an aspiration to buy?
- What is their expectation with reference to the cost?

GE Healthcares MAC 500

MAC line of electrocardiogram (ECG) Systems is a success story of reverse innovation in India, for India and the world. Since 2001 the company has manufactured high end ECG ($20,000) in its Bangalore set up. But it is only meant for top 20% of the hospitals and people in India who can afford them. Poor standard of living, bad food habits, lack of affordability and genetics makes Indians prone to poor hearts. As the majority of India lives in rural areas and the issues like affordability, no hospitals, poor electricity or no electricity and finally lack of trained doctors makes it more difficult for GE’s global $20,000 ECG machine to be marketed. In 2005 GE engineers are eager to create a product which is not only ultra low cost but also world class quality with universal access. That is how the $500 ECG machine MAC 400 was born. It is lighter than a Coca-Cola can and can be put into the bag pack for transporting to the remote areas without any hassle. This machine has two buttons one is red and another is green. If you push green button it starts and if you put red button it stops. For the operation of the machine you don’t need 500 page manual as we used to need in case of $20,000 earlier ECG machine. As the machine works on battery, it can be
operated by a layman. On a single charge 750 ECG scans can be produced by the machine. Now this machine is sold in 194 countries around the world, including developed countries like US, UK etc.

**Sarvajal - Piramal Foundation**

As per the WHO report 5, 30,000 people die out of diarrhea in India. As per another report, out of 748 million people who have no access to the safe drinking water in the world, 92 million belong to India only. In India only 35% of the population are connected to safe drinking water. To help people to come out of this vicious circle, Sarvajal was founded in 2008 by the Piramal Foundation to develop market based models for providing clean drinking water at the base of the pyramid. Since then more than 8.8 Billion liters of clean drinking water served, 100,000 served daily in over 6 states, 400+ jobs that encourage safe water practices in local communities. The company in collaboration with Delhi Jal Board started its journey 15 ATM’s in West Delhi. It is a 24*7 distribution operated through prepaid cards with a 5 stage purification process. Water from the plant costs 15 cents a liter and 30 cents from the machine. In a country where 92 million people are way behind from the privilege of having clean drinking water efforts of Piramal foundation is a candle in the darkness.

**NARAYANA Health**

Dr. Devi Shetty performs open-heart surgeries for $2,000 at Narayana Hrudayalaya in Bangalore as opposed to the $1, 50,000 needed in the United States, simply by using innovative approaches and reducing unnecessary costs. What is interesting is that despite the significantly lesser price, the quality was actually much higher. Surgery needs to be of higher quality in India - because Indians typically have weaker hearts and the risk of post-operative complications from heavy air pollution is greater." so this talks "Reverse Innovation is not about lowering costs. It is about delivering a lot more quality at more reasonable price points. It is about doing more - with a lot less" (Govindarajan & Ramamurti, 2011). Despite the fact Narayana Health uses the same equipments as in the developed countries; cost is managed due to the optimal use of the equipments. As doctors perform so many operations which gives them the cutting edge skills and advantage.
CONCLUSION

Reverse innovation is not yet widespread among large Western companies. MNCs from the developing world might find it easier to pursue reverse innovation as the underlying principal of frugality is something better grasped by people from the developing world where resources are scarce. It has become apparent by now that further research on reverse innovation is not only justified but also crucial for contributing to the development of this strand in innovation theory.

Therefore, the research questions are formulated as follows:

1. Based on the literature review, where does “reverse innovation” stand in relation to other innovation literature streams?
2. How can the case of the GE, Godrej ChotaKool, Piramal, Narayana Health be understood and explained through reverse innovation theory?

Furthermore, reverse innovation is a practice that can be undertaken by both Western MNCs and well as EMNEs. The principles are similar in both cases, but these two different types of companies according to their origin, face different challenges in the reverse innovation process and could have different advantages that they bring in the process. Lastly, while we recognize the future potential of reverse innovation as an approach that could erase market borders, it is important to mention that the reversal of different types of products from different industries have different probabilities of success. We believe that reverse innovation could result in creating products that can appeal to both local and global consumers and hence, there will not be a need for local adaptation in the future. One distinct pattern that can be observed by analyzing the existing literature is that most authors focus on discussing the development of frugal products and their acceptance among the developing world, while neglecting the second part of the approach which is to successfully market those products among sophisticated customers in the developed world. For the future of reverse innovation, we need to understand the reversing process better and especially the adoption of the frugal product among Western
consumers. In this sense, more research is necessary to analyze particular product/services in order to uncover patterns that might show us which particular types of products or which industries are most susceptible to reversal. Last but not least, the above research effort was directed at shedding some light on the concept of reverse innovation and how it brings inclusive growth in emerging economies through the help of real-life case studies.

REFERENCES


