

## **A REVERSE INNOVATION CASE FROM A TURKISH COMPANY: VESTEL**

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### **ABSTRACT**

The purpose of this study is to present a reverse innovation case from a Turkish company, Vestel, which is a major player in electronics, white and brown goods sectors both in Turkey and the World. A reverse innovation has been a popular concept for companies which want to get the advantage of local knowledge and experiences in developing countries to launch new products in developing countries first and eventually in developed countries after the products succeed. Thus, growth opportunities expand for companies in both developing and developed countries by targeting and penetrating into different market segments which have high growth potentials and large number of customers. Reverse innovation has been practiced in various types more than two decades. However, there is a gap in the literature about how products are innovated and launched by Turkish companies in developing countries first and launched eventually in developed countries as a reverse innovation process. This paper aims to fill out this gap by presenting a case from a Turkish company which expands abroad and practices the reverse innovation.

### **THE CONCEPT OF A REVERSE INNOVATION**

A reverse innovation has been presented as a growth opportunity for companies which want to expand in both developing and developed countries and target new market segments. It has been practiced more than two decades in various types but there are still gaps in the literature. The purpose of this study is to present a reverse innovation case from a Turkish company, Vestel, which is a major player in electronics, white and brown goods sectors both in Turkey and the World. First of all, the concept of reverse innovation will be explained, and then the process of reverse innovation will be highlighted, the the examples of reverse innovation from the World and Vestel will be presented. Finally, conclusion will be revealed.

Immelt (Immelt, Govindarajan, Trimble, 2009) coined a reverse innovation term based on a disruptive innovation notion of Christensen (Bower and Christensen, 1995). Govindarajan and Trimble (2010) popularized this term and their notion of a reverse innovation is supply-led, strategic and based on a development of a low-cost product to disrupt new markets to grow. Rogers (2003) and DePasse and Lee (2013) believe that a reverse innovation requires a "cross-over" from a developing country early adopters to a developed country innovators. According to Corsi and Di Minin (2011), a reverse innovation proposes that disruptive innovations are developed by scaling them in developing countries which have broader markets representing bottom of the pyramid, lower entry barriers and costs compared to developed countries. Then, they can penetrate into developed countries as well. GE's ultrasound machine and portable ECG machine cited frequently were developed in subsidiaries in India with low costs and eventually introduced into US (Corsi and Di Minin, 2011) (Harris et al., 2016, pp. 1-2).

A reverse innovation is a global reversing innovation flow from a developing country to a developed country, and is eventually launched to a developed country. An innovation may be

new to the market but not new to the World. A customer perception determines whether an innovation is “reverse” in the sense of it has been launched in a developing country before it is launched in a developed country. According to Govindarajan and Ramamurti (2011, p. 191), a reverse innovation is “an innovation that is adopted first in a poor country before being adopted in rich countries” (Von Zedtwitz et al., 2015, pp. 13-16).

Almost 10% of customers in developing countries can use similar products that are used in developed countries. So, a reverse innovation targets customers who are in the middle and bottom of the economic pyramid in developing countries. It targets customers who are not in the top 10 percent of the economic pyramid. A reverse innovation is a tailored innovation for poor customers’ needs but can find market niches in developed countries as well. A reverse innovation requires creating fundamentally different products to meet low and middle income customers’ needs in developing countries. Offering affordable products which meet customers’ needs is the logic behind a reverse innovation. Affordability is an important attribute of a product but it is not the main one (E.g: PepsiCo’s lentil-based snack in India). Companies which aim to conduct reverse innovations should understand customers’ problems and provide comprehensive solutions to them. Products should provide 50% of the functionality to 15% of the price with world class quality. They should have appropriate number of features for specific markets. R&D employees should be located in developing countries to develop appropriate products (Govindarajan and Euchner, 2012, pp. 13-17).

According to Hang et al. (2010, p. 26), achieving sustainable innovations in developing countries requires companies to attract the large number of customers at the bottom of the pyramid (Brem and Ivens, 2013, p. 35).

There is an income gap between developing and developed countries. Customers in developing countries search products on different a price-performance curve since they are price conscious. They want high-tech products at low costs and value for their money with quality. The frugal innovated products are simple but have high end technologies at affordable prices for large number of customers. They are not de-featured or scaled down products for the lower end and may target the middle and bottom of the pyramid. Moore (2011) acknowledges that a reverse innovation comes from the concept of jugaad (A Hindi word means “making do with what one has, to solve one's problems or implying a certain degree of improvisation”). A jugaad which is an inspiration to create products with a technology to meet the price value equation means offering innovative products with limited resources. A reverse innovation offers good quality, high value, and functional products which are affordable with reasonable means (Sinha, 2013, p. 71).

Dadwal and Syed (2013, p. 9) state that a reverse innovation actors are innovation think tanks, sectoral policy organizations and foundations besides companies which create an innovation demand and adoption (Harris et al., 2016, p. 2).

## **THE PROCESS OF A REVERSE INNOVATION**

A reverse innovation requires a comprehensive process to be implemented. It targets a developing country and is usually developed there. It eventually flows to other developing countries and finally flows to developed countries.

Govindarajan and Trimble (2012) believe that there are four changes in corporate mindsets facilitating a reverse innovation: (1) Questioning glocalization that hinder a reverse innovation and recognizing decision makers that success in developing countries requires a new start with

global issues; (2) Flowing of employees, power and money to developing countries; (3) Creating an organizational reverse innovation culture through a development of local activities, an immersion of employees and a nomination of local officials; (4) Creating organizational activities for subsidiaries in developing countries with separate financial results and a focus on growth metrics (Hadengue, de Marcellis-Warin and Warin, 2015, p. 51).

A local company can make a reverse innovation and send these products to developed countries to compete. Developing countries grow at higher rates than developed countries. Products innovated by developing countries can create new markets in developed countries with lower prices or pioneering new applications. Three factors are critical for success and implementation of a reverse innovation: (1) The decision-making and resources should be localized in developing countries; (2) Subsidiaries should be supported by global technologies and (3) The company should take risks and experiment (Sinha, 2013, p. 72).

A reverse innovation concept is based on reversing international product life cycle theory of Vernon (1966, 1979). Although China and India were major economic players in the 19th century by accounting half of the World's GDP (Maddison, 2001), they are developing countries in the 21st century. An innovation flow from these countries to developed countries is considered as a reverse innovation (Radojevic, 2015, p. 76).

A reverse innovation focuses on a market instead of a product. According to Vernon (1966), an innovation flow was from developed to developing countries traditionally. However, innovations targeting developing countries may be preferred in developed countries due to low costs. Nowadays, many companies replot their resource-constrained innovations to developed countries to fill out gaps and attract cost oriented customers (Zeschky, Winterhalter, and Gassmann, 2014, p. 23).

The innovation phases are "ideation, development, primary market introduction, and secondary market introduction" (Von Zedtwitz et al., 2015, p. 17).

DePasse and Lee (2013) integrated innovation concepts (reverse innovation, innovation adoption, innovation spread and its acceleration) to create a reverse innovation model with four stages: (1) Problem identification; (2) Developing countries innovation and spread; (3) Crossover; and (4) Developed countries innovation and spread (Hadengue, de Marcellis-Warin and Warin, 2015, p. 52).

According to Crisp (2010), a reverse innovation examines barriers for adopting a developing country innovations in a developed country. Abeygunasekera (2004) believes that developing countries develop novel innovations by providing opportunities to learn from them. According to DePasse and Lee (2013), DePasse highlights that a reverse innovation is an innovation diffusion type due to its non-traditional learning and a flow from a developing to a developed country. They (2013) propose that a "crossover" is essential where ideas flow from a developing to a developed country and network structures in an adopter country should be receptive to an innovation (Harris et al., 2015, p. 2).

Five factors drive innovation adoption (Rogers, 2003): "(1) Better, (2) Relevant to local context, (3) Simple, (4) Easily tested, and (5) Visible to others" (DePasse and Lee, 2013, p. 3).

Govindarajan and Trimble (2012) explain that a large ratio of cost and value based innovations flow from developing countries. They (2012) add that a reverse innovation which

is a two step process whereby innovations are created for developing countries and flow to developed countries, can affect financially burdened, developed systems positively through low cost but high quality innovations (e.g: GE Healthcare Worldwide's durable, portable, rechargeable and low-cost electrocardiogram was designed for India's rural and low-income areas) (Snowdon, 2015, p. 2).

### **EXAMPLES OF A REVERSE INNOVATION FROM THE WORLD**

There are several reverse innovation examples in the literature. Products are developed for developing countries first. When they succeed, they are introduced to developed countries. Especially products which target China and India first can find market niches in developed countries later on.

GE's Logiq Book (Immelt, Govindarajan, and Trimble, 2009; Govindarajan and Ramamurti, 2011), Logitech's M215 wireless mouse (Trimble, 2012; Govindarajan and Trimble, 2012), Mettler Toledo's simple weighing scale (Zeschky, Widenmayer, and Gassmann, 2011) and ZPMC's harbor cranes (Barboza, 2011) are examples of reverse innovations which targeted developing countries first and are eventually sold in developed countries. Barboza (2011) believes that cost innovations have succeeded in developed countries (Zeschky, Winterhalter, and Gassmann, 2014, p. 24).

General Electric developed a cheap ultrasound device initially for China and then offered this product to other developing and developed countries. Siemens pursued the same strategy with SMART program (Agarwal and Brem, 2012) (Brem and Ivens, 2013, pp. 35-36).

Haier, a Chinese consumer electronics company, is the market leader in the West for cheap refrigerators. Most Western automotive companies produce small, inexpensive cars that are affected by Tata Nano. Mahindra and Mahindra's little tractors are popular with gardeners and hobby farmers in US. Companies from developing countries have become global companies based on frugal and reverse innovations (Hang et al., 2010) (Brem and Ivens, 2013, p. 36).

Many products such as a very low cost mobile phone, a cycle charger, a \$35 tablet PC, Tata Swach water purifier, Mahindra Geo low cost fuel efficient minitruck were innovated for Indian customers. Tata Chemicals, General Electric, Godrej in India try to touch untapped markets with reverse innovations (Sinha, 2013, p. 71).

### **EXAMPLES OF A REVERSE INNOVATION FROM A TURKISH COMPANY: VESTEL**

There is a gap in the literature about how products are innovated and launched by Turkish companies in developing countries first and launched eventually in developed countries as a reverse innovation process. Thus, a case from a Turkish company which expands abroad and practices reverse innovations will be presented in this section. Vestel is a major electronics, white and brown goods manufacturer in Turkey. It has production facilities, R&D centers and subsidiaries in different countries.

Vestel reached almost 3.2 billion USD revenues and 56 million USD net profits in 2016. It made 63% of its sales abroad. It has operations in Turkey, Europe and other countries. It exports its products to 154 countries. It has 10 companies in Europe and 2750 shops abroad. It has R&D centers in Turkey, UK, and China. It had almost 43 million USD R&D expenses in

2016. It has been practicing reverse innovation projects for a while (Vestel Elektronik Annual Report 2016). Examples of reverse innovation projects of Vestel are as follows:

Project 1.

Name of the Project	Heavy duty electronic system design project for washing machines which works in different climate and environmental conditions
Features of the product	A durable electronic system was designed for high temperatures and humidity.
Reason for the product to be appropriate for developing and developed countries	Very hot and humid countries require different electronic systems which can work in very hot and humid weather.
Developing and developed countries to launch the product	Developing countries: Countries which have high temperatures and humidity such as India, Far East countries Developed countries: Middle Europe
Planned date to launch the product in developing countries	First quarter of 2018
Does the sales of the product continue in developing and developed countries?	They are not started yet
Results of launching the product in developing and developed countries	It is expected that sales will increase in developing countries first and then in developed countries.

Project 2.

Name of the Project	Washing machine project appropriate for changing electricity networks
Features of the product	A durable washing machine with new electronic cards and improved components was designed for changing voltages in electricity networks and voltage strokes.
Reason for the product to be appropriate for developing and developed countries	This product project is appropriate for changing network conditions, voltage changes and strokes due to poor electricity networks.
Developing and developed countries to launch the product	Developing countries: Countries which have poor electricity networks such as India Developed countries: West Europe and Middle Europe
Planned date to launch the product in developing countries	First quarter of 2018
Does the sales of the product continue in developing and developed countries?	They are not started yet
Results of launching the product in developing and developed countries	It is expected that sales will increase in developing countries first and then in developed countries.

Project 3.

Name of the Project	7 kg washing machine project which is customer oriented and appropriate for specs and regulations of developing countries
Features of the product	Performance criterias for India, Vietnam, and Thailand were determined to develop appropriate algorithm designs. These algorithm designs were tested and included to the program range of the indicated products. Then, certificates for each model were taken. Then, the same process was conducted for Europe, Australia, New Zeland, Singapore, and Hong Kong.
Reason for the product to be appropriate for developing and developed countries	The design has a sheet iron bottom cover to prevent small animals and insects to enter into the washing machine. Also, it has a water hose appropriate for several plumbing conditions and a power caple appropriate for several electricity networks. Because, developing countries have poor housing infrastructures and hygiene conditions.
Developing and developed countries to launch the product	Developing countries: India, Vietnam, Thailand Developed countries: Europe, Australia, New Zeland, Singapore, Hong Kong
Planned date to launch the product in developing countries	6.30.2012
Does the sales of the product continue in developing and developed countries?	They continue in both developing and developed countries.
Results of launching the product in developing and developed countries	Sales have increased in both developing and developed countries. Also, infrastructure is formed for countries which have similar conditions.

Project 4.

Name of the Project	6 kg, 7 kg and 9 kg washing machines project which is customer oriented and appropriate for specs and regulations of developing countries
Features of the product	Performance criterias for Russia, Middle East, Asia and Africa were determined to develop appropriate algorithm designs. These algorithm designs were tested and included to the program range of the indicated products. Then, certificates for each model were taken.
Reason for the product to be appropriate for developing and developed countries	Houses in target countries have small kitchens so low depth washing machines were designed.
Developing and developed countries to launch the product	Developing countries: Russia, countries in Middle East, Asia and Africa

	Developed countries: West Europe
Planned date to launch the product in developing countries	6.30.2012
Does the sales of the product continue in developing and developed countries?	They continue in both developing and developed countries.
Results of launching the product in developing and developed countries	Sales have increased in both developing and developed countries.

## CONCLUSION

Although a reverse innovation is a new concept, it has been practiced successfully by several companies. It creates market growth and penetration opportunities in both developing and developed countries for companies which want to expand globally. Vestel which is a major Turkish electronics, white and brown goods manufacturer is also a major player in the World. It has practiced reverse innovation projects which help it grow continuously. The major goals of these projects are developing appropriate and durable products for target countries, expanding sales of these new products to other developing and developed countries, increasing its competitive advantages, sales and market shares in the World. It is expected that Vestel will continue to practice a reverse innovation process in the long run since it has realized its advantages. This paper has shed light to reverse innovation practices of Vestel. It presents its successful reverse innovation practices to the academic literature. It is expected that this paper will make contribution to the researches which will be conducted in this field in the future.

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