

VIRTUAL NETWORK OPERATORS – ENABLER FOR DIGITAL REVOLUTION IN RURAL INDIA

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Abstract

Several studies have been conducted in the field of virtual network operators, business models that can be applied, types of business models for these operators. This research paper examines the emergence of virtual network operators in the telecommunication business and how it can be used as an enabler for providing digital connectivity to the rural parts of India. Due to various government initiatives like Digital India, Rural Internet mission, and 100 smart city projects, the need for digital connectivity has become mandatory. With the present telecom operators already facing challenges to build a viable business model due to the high spectrum prices, infrastructure cost, fiber rollout cost that makes it difficult for the operators to provide connectivity to the rural parts of the country. Various examples of MVNO companies are taken into consideration to get a better understanding of how this market can be used as an enabler.

Key words: virtual network operators, digital india, smart city projects.

Introduction

There has been an increasing demand among government agencies to increase teledensity in rural India owing to the Digital India Initiative. At the end of 2019, the rural teledensity stood at approximately 57.59 percent whereas the teledensity in the urban region stood at 160.63 percent [1]. According to the [2], the target for the rural density was set at 70% by 2017 and 100% by 2020. This huge difference between the urban areas and rural areas is a huge concern for the Indian government which makes the virtual network operators the most reliable option. These operators are considered as resellers of telecom operators who directly charge their customers on the rates that they set [3]. VNO's are capable of delivering any type of telecom services such as broadband, OTT services like Voice over Internet Protocol, messaging. For example, Airtel that has a good presence in various metro cities may not be willing to invest in a rural place in Nagaland where the teledensity is below average due to high investment, this business opportunity can be capitalized by a virtual network operator, who can utilize the available infrastructure which has been installed by Airtel in Nagaland and can provide services like home telephony, broadband to the people of Nagaland by bearing a little cost of fiber rollout and help the government's initiative of Digital India. Various types of business models for virtual network operators are present in European countries [4]. By the case study analysis, this paper accomplishes to suggest the business models which can be suited in India. Due to the huge geography of the country, there is a possibility that different types of business models can be used in a different region that will be explored in this paper.

Objective:

The objective of this research paper is to understand how the adoption of virtual network operators can help in increasing the teledensity in the rural parts of India. Through case study analysis which focuses on the Virtual Network Operator market, this paper attempts to suggest the possible business models which can be used in India.

Literature Review

Prior studies have identified many benefits of mobile virtual network operators in providing Internet and calling facilities to the rural parts of the country. According to [5], the share of MVNO in the Oman telecommunication industry is approximately 7.2% just after 3 months of licensing of MVNO with a growth rate of 20 to 48%. MVNO's in Oman are targeting untapped market segments that are in the rural parts of the country untouched

by the mobile network operators in the country. MVNO's are companies that function as mobile operators but do not have their own network infrastructure and frequency spectrum. These companies make business agreements with one or more Mobile Network Operators (MNO's) by taking mobile networks and capacities on lease [3]. MVNO's provide huge value to the telecommunications industry as they provide telecom services at a cheaper rate to customers and work with the network operators who own the telecom infrastructure. They provide a cheaper rate because network operators sell airtime at wholesale rates to mobile virtual network operators [6].

One more example of the success of MVNO is stated by [7], three telecommunication operators in the Czech Republic offered the same services with similar pricing policies which led to saturation of revenue generation for the telecommunication network operators. One possible way to find a way out of this problem was to incorporate a new business model that would help all concerned parties the current operator, a new mobile virtual network operator, and the end-users. There are different business models for the MVNO's as stated by [8] which depend on how the value chain is restructured namely, Branded reseller, Light MVNO, and Full MVNO. The innovative developments of MVNO's should be considered as a business opportunity in India, as it allows the mobile virtual network operators (MVNOs) to have full control over its marketing strategy, SIM card, billing system, customer care platforms and Network operating centre.

Indian telecom authority should look for promoting business opportunities in the MVNO market to increase the rural teledensity that stood at 57.59% while the urban teledensity stood at 160.63% in the year 2019 [1]. Virtual Network Operators are capable of ending the digital differentiation existing between urban and rural India [9]. An example of VNO can be a cable provider or a local telco who have their existing infrastructure which can be utilized to provide the last-mile connectivity by deploying co-axial fiber connectivity [10]. The increasing debt and low return on investment have become a major challenge for telecom operators in India. To overcome the challenge mobile network operators like Airtel, Reliance Jio can choose to work with MVNOs by serving under-served customer segment demography wise and some underutilized assets and network capacities geography-wise [11].

Research And Methodology:

The research methodology used for this study would be a case study approach wherein strategies adopted by MVNO's have been analyzed and how these operators have helped in creating value for their customers in various countries across Europe and North America. The data for this research has been collected through whitepapers, articles, reports, and company websites. Collected literature was analyzed for relevance to the topic.

The research questions addressed in this study include:

- Can mobile virtual network operators help in increasing rural teledensity in India?
- What type of business model for MVNO is suitable for the Indian market?
- Is MVNO a threat to the present telecom operators?

Case studies:

Use Case Study 1: Consumer Cellular (Usa)

Consumer Cellular is an MVNO that provides post-paid cellular services to customers in the USA. The company offers both cell phones and no-contract cell phone plans. In cell phone included plan the company provides a smartphone to its customer at a subsidized rate and locks the customer for a two-year plan commitment with the service provider. The consumer cellular uses the wireless network capacity of T-Mobile and AT&T. Consumers get access to only one of these networks, which is based on the network coverage where the consumer lives. As of 2019, the company had more than 3.5 million subscribers across the United States.

USP: -

- The plans offered by the company are designed to cater to the market of the over-50 demographic.
- They also provide 5% discount on monthly bill plans to customers from AARP (American Association of Retired Persons)

Use Case Study 2: Comcast Xfinity Mobile (Usa)

Comcast Xfinity Mobile is a provider of low-cost cell phone services that uses Verizon's LTE network in the United States. Comcast was a cable company and internet service provider when it launched its wireless phone services. The company provides wireless services to its customers at a cheaper price and also provides customers to switch to Comcast's Wi-fi hotspots to save on the data. Xfinity Mobile provides various bundling options that have helped them to acquire customers. Bundling options include stream live TV, on-demand content, and shows stored on the cloud.

USP: -

- Low prices as compared to competitors.
- Millions of customers already acquired through the cable business.

Use Case Study 3: Amotel (Tanzania)

Amotel is a Tanzanian based MVNO that uses the network capacities of Tanzania Telecommunication Company Limited (TTCL) was launched to cater to the rural areas to bring telecom services at affordable prices to the rural customers. The presence of Amotel in rural areas has represented support to the government for the country's rural telecommunication projects. The company has connected over 4,000 villages across the country with more than 3 million customers.

USP: -

- Targeting only the underserved market in the country.
- Millions of customers acquired by offering low priced data plans based on the needs of the people.

Use Case Study 4: 1 & 1 (Germany)

1&1 is a German Internet service provider and offers mobile services such as voice, data, and messaging to their existing customers. The company uses the network infrastructure of Vodafone Germany and Telefonica Germany. The company provides various bundled services to its customers such as access to various OTT platforms at an affordable rate. The company also provides M2M products to business customers that have helped their MVNO business to grow. The company has acquired a customer base of more than 15 million customers.

USP: -

- Targeting customers by providing various bundled services.
- Offers affordable data plans coupled with Internet broadband services.

Use Case Study 5: Aldi Talk (Germany)

Aldi Talk provides mobile telecommunication services that use the network infrastructure of O2 Germany. Aldi Talk has offered its customers affordable and very competitive prices for mobile data. The company offers internet data plans and internet plans with free text messages and calling. The company has listed a wide variety of plans based on the various needs of its customers. The company has expanded into various countries in Europe and outside Europe such as Australia, The Netherlands, Austria, Belgium, and Slovenia. The company has more than 25 million customers throughout Europe.

USP: -

- Extremely low and competitive prices that have helped in acquiring loyal customers.
- Different internet plans based on the various needs of the customers.

Conclusion:

In this study, we studied various case studies of different MVNO companies throughout and what strategies have they applied to acquire customers. For the Indian market, there can be various models of MVNO that can be applied, for instance, an already established local Internet Service Provider such as Airjaldi who provides rural broadband services can also provide affordable mobile services through an MVNO agreement with major telecom operators like it was done by 1 & 1 Germany. Established cable companies that have a strong presence in rural areas such as Hathway can create a business model similar to what was adopted by Comcast in the USA. Hathway can acquire MVNO rights from the government to provide mobile services to their customers. By offering bundled services with broadband services the company can create viable MVNO business models. MVNO business has huge potential to grow in the Indian market, companies need to find their niche market that can be demography wise as well as geography wise. MVNO agreement allows current operators such as Vodafone, Airtel and Reliance Jio to open new source of revenue channel as well as allow MVNO to branded reseller of their services.

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