Article can be accessed online at http://www.publishingindia.com

Need for New Business Models in Telecom and Emerging Trends

Sandeep Prabhu*, Rushal Singh Arora, Shraddha Mishra*****

**Associate Professor, Symbiosis Institute of Telecom Management, Constituent of Symbiosis International (Deemed University), Maharashtra, India. Email: sprabhu@sitm.ac.in*

***Student, Symbiosis Institute of Telecom Management, Constituent of Symbiosis International (Deemed University), Maharashtra, India. Email: rushal.arora@sitm.ac.in*

****Student, Symbiosis Institute of Telecom Management, Constituent of Symbiosis International (Deemed University), Maharashtra, India. Email: shraddha.mishra@sitm.ac.in*

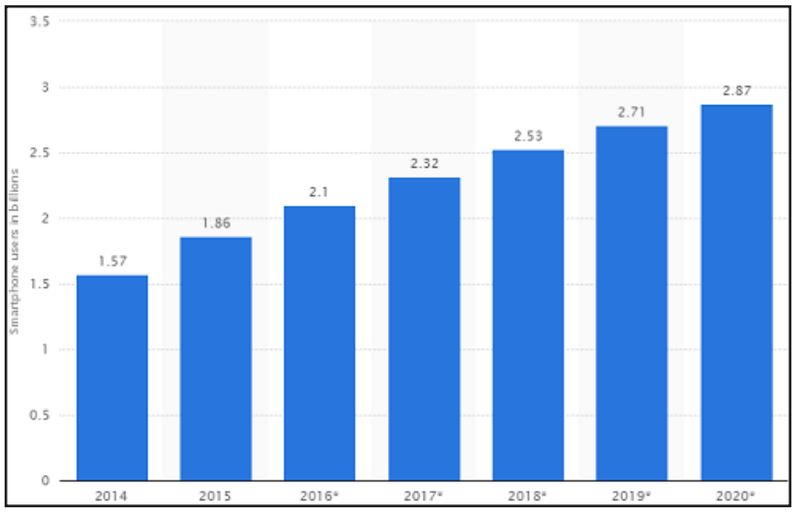
Abstract

The telecom operations in the ICT ecosystem are becoming progressively complex. There is a paradigm shift from the conventional services of voice and data since the consumer dynamics are changing rapidly in terms of value and markets. Due to this, the traditional business models are facing the heat and increased pressure and have started to show signs of instability. This has subsequently forced the telecom service providers to adapt to the changing times which can be seen by the increased investments in the fibre optic connectivity and digital advertisements becoming a pivotal part of the mobile experience. The telecom companies have to continually modify their business models along with radical innovations for the upcoming data value chains. Starting from a brief overview of the structure of a conventional business model and the forces shaping the future of the telecom industry, this paper aims at exploring some new models that serve interests whilst delivering maximum value to the consumer.

Keywords: Business models in Telecom, ICT, Telecom Infrastructure, and Telecom Strategies

1. Introduction

Telecom companies are constantly under the scourge and facing a breakdown in the present revenue streams. Over the past few years, the ICT industry has brought upon a transmutation of industries, economies, and societies. There are going to be 5 billion mobile phone users in the world by 2019 (Statista.com, 2017).



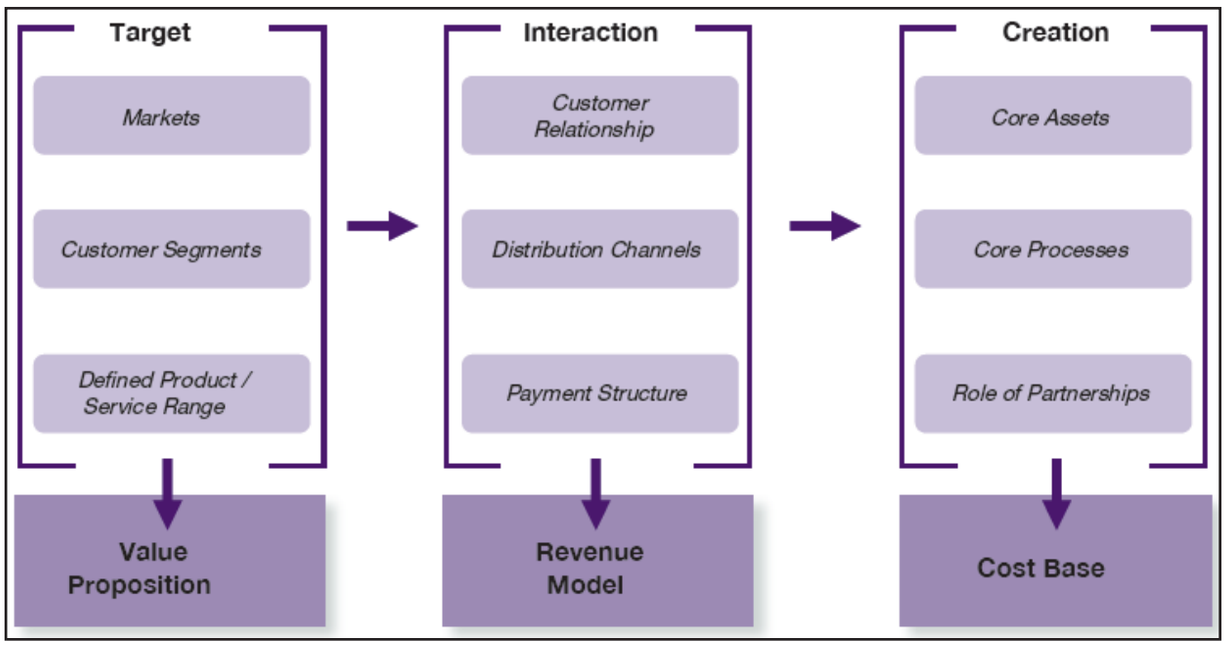
(Source: www.statista.com)

Fig. 1: Number of Smartphone Users in the World (in billions)

The number of smartphone users is expected to grow from 2.32 billion in 2017 to around 2.87 billion in 2020 and about 11 percent of the world's population was using a smartphone in 2011. This figure is going to rise to about 36 percent by 2018 (Statista.com, 2017). The industry is undergoing major after effects of the significant and unprecedented growth and the telecom operators ought to build new and improved high-speed networks to satisfy the customer demand and the demand from the different industries along with reinforcing the existing infrastructure and development of newer strategies (Vakulenko, 2015). Operators are lagging behind in these efforts to develop new strategies as the conventional revenue sources are becoming commoditized (Sushma Vishnani, March 2017). The major challenges include a drastic reduction in the business of fixed-line and voice services. In earlier times, conventional services like voice telephony were the leading bread earners for the telecom operators. Now, transmission is being commoditized for the consumer. The rising requirement for higher bandwidths still requires exorbitant investments in network infrastructure and telecom companies are draining out every penny from their reserves to stay in the business. However, the same network becomes a haven for application and content players such as Facebook, Amazon, and Netflix, that can profit from the resulting revenues without any indulgence in the infrastructure investment. Furthermore, those content and application providers also called OTT players (Over the Top), even compete with traditional telecommunications operators. As a result, telecommunications operators require innovative services to secure their revenues.

The need for internet services is grabbing a big portion of the telecom operator's revenue streams. Also, the traditional pricing models to monetize such traffic do not seem to be working (IBM, 2016). This article breaks down the transformative way and patterns affecting plans of action and steps that could be taken by telecom administrators to advance their customary models.

2. Structure of a Business Model and the Trends Impacting the Model



(Source: www.capgemini.com)

Fig. 2: Framework of a General Business Model

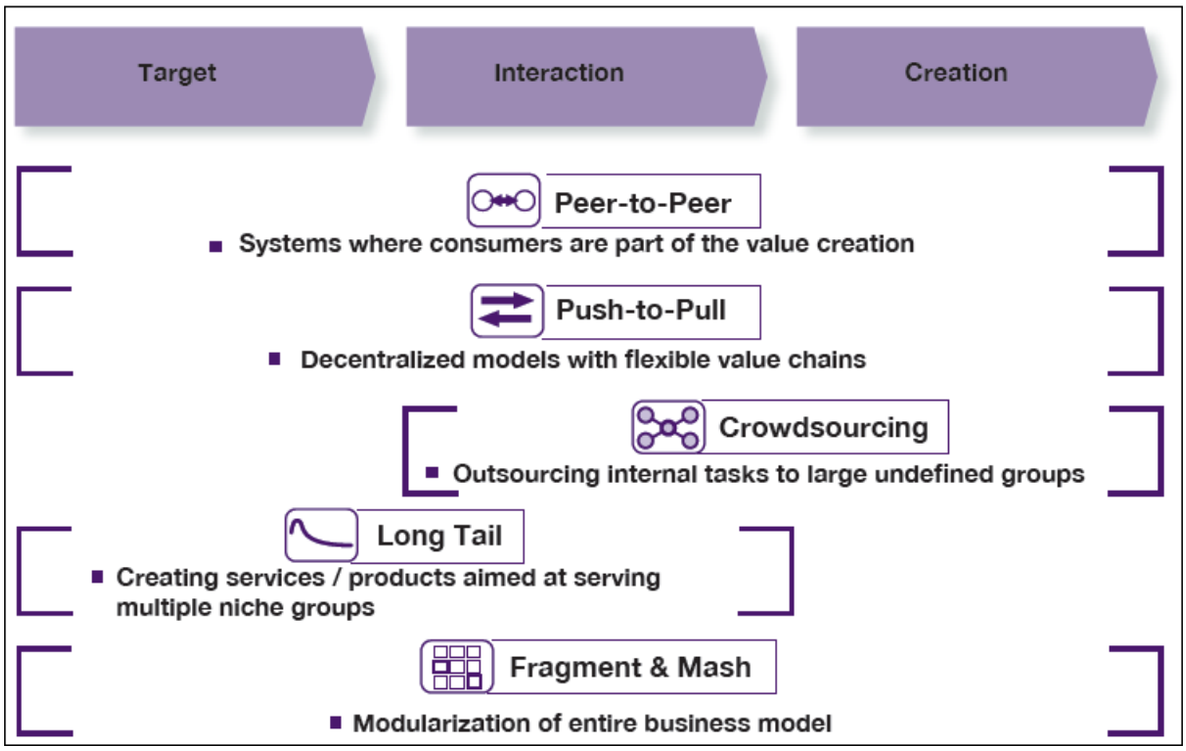
The fundamental point of the business model is to benefit the client as well as the organization. The model comprises three interlinked parameters: Target, Interaction, and Creation (Capgemini.com, 2010).

- The target includes characterizing the income potential. This is determined as a total of three key components. In the first place, the topographical or vertical

markets inside which the organization is planning to operate. Second, the client fragments that are to be tended to and their particular necessities. Thirdly, a distinct benefit offered in light of distinguished client prerequisites (Cecilia Kang, June 2010).

- Interaction is the procedure in which the organization connects with the client to meet their necessities with items and administrations. It likewise comprises of three sections. The initial segment is the client relationship, with an attention on the idea of the relationship, the important power, the span, the substance and the run of the mill and perfect arrangement of occasions amid client cooperation (Cecilia Kang, June 2010). The second part is the channels of marketing to encourage the communication with the users. Thirdly, the payment modes, time, and recurrence of payments (TeleGeography, 2010).
- Creation expands on the initial two measurements of Target and Interaction. It characterizes how an organization can productively satisfy its positioning. (Connected Planet Online, April 2009). The basic components are the advantages and uncommon abilities that the organization brings into the picture. (Bloomberg, 2010).

There have been 5 broad trends impacting the business models of the telecom operators as shown in the figure given below:



(Source: www.capgemini.com)

Fig. 3: Trends Impacting Business Models

2.1 Peer to Peer

The appearance of new advancements is always driving the disintermediation of the phases that make up the linkage between a specialist organization and a customer. An illustration is Stack Overflow (Alexia Tsotsis. November 2010). The site offers around 34 communities and draws in more than 10 million monthly visitors in the specialized programming network. (Alexia Tsotsis. November 2010).

2.2 Push-to-Pull

Centralized plans of action depend on the consistency of interest, guaranteeing item advancement, and improving

the inventory network. These models are fixated on the premise that key basic leadership is best done at a focal/ corporate level. Decentralized models adopt the contrary strategy, with the client middle of everyone's attention (Capgemini.com, 2015).

2.3 Crowdsourcing

Companies progressively source merchandise and ventures by means of open systems of outer specialist organizations, stretching out from open source programming to item configuration to innovative work. Such methodologies help decrease expenses and time-to-showcase (Capgemini.com, 2015).

2.4 Long Tail

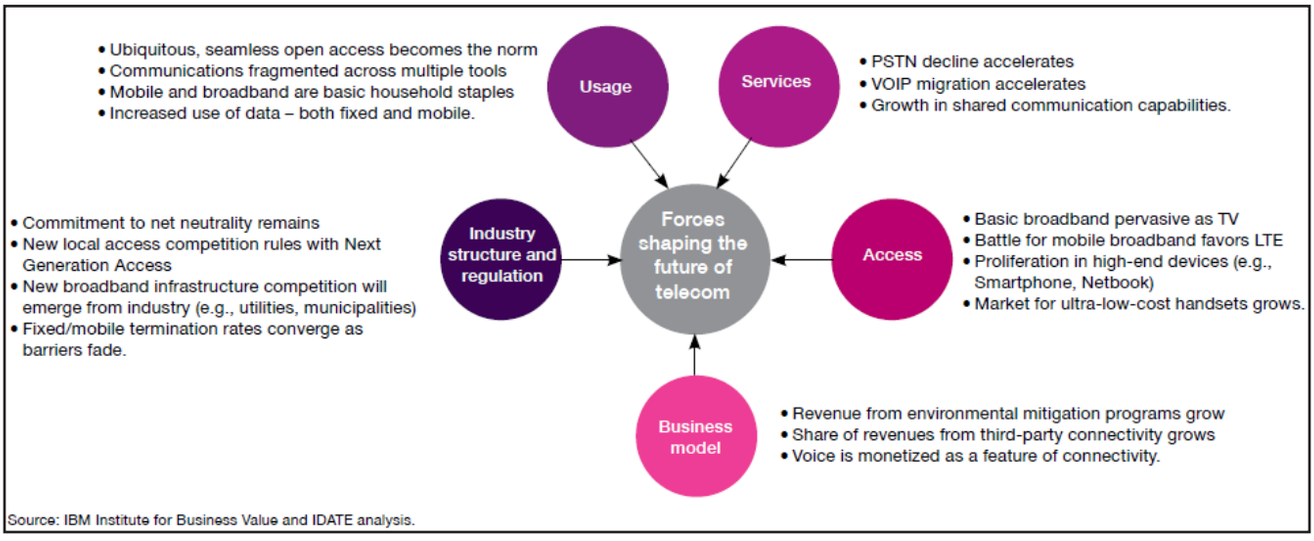
'Long Tail' empowers the enterprises to beneficially serve specialty segments that were not alluring beforehand. The sophistication in data frameworks has helped operators to employ different MVNOs that can work with a free personality, without acquiring extra costs (Rupert Jones, 2015).

2.5 Fragment and Mash

This pattern portrays the steady modularization of the whole plan of action. Organizations begin building ranges of abilities over a scope of sub-exercises that are required to fulfill a bigger action. By institutionalizing the prescribed procedures and making empowering influences for giving such auxiliary abilities a chance to thrive, organizations can make stages for new administrations construct only with respect to these aptitudes (Capgemini.com, 2015).

3. Scenario Envisioning for Telecom and Some Critical Variables

Conventional ways to prophesize the future in view of pre-assembled monetary and geopolitical patterns are unsatisfactory for an industry changing as fast as telecom, the advancement of which has taken numerous remarkable turns over the previous decade. (IBM Case Study, 2013). There are various patterns in the development of the business for which there is a high level of accord about their sureness (see Figure 4).



(Source: www.ibm.com)

Fig. 4: Forces Shaping the Future of Telecom Industry

These give a broader view of what the future of telecom would look like and are classified into five factors:

3.1 Usage

This factor involves the disruptive pricing, ultra-high convenience and new applications for the users by use

of communication channels that would be (Strategyand.pwc.com. November 2009).

3.2 Services

This factor involves the scope for development in verticals like Healthcare, Fintech, and Logistics etc. to create value combined with robust and high end connectivity to ensure seamless business process integration. (Strategyand.pwc.com. November 2009).

3.3 Access

This factor involves the level of coverage that will be achieved in the next ten years and the capital to be employed for the same. Along with this, we will see a shift from open source platforms like Android to competing device platforms (IBM.com, 2009).

3.4 Business Model

This factor involves the most pivotal component of the telecom operators i.e. the change in the business models. There would be a key change in the channels of revenue from only the customers to other stakeholders like content firms, advertisers etc. Also, added benefits from high speed broadband by use of fiber (IBM.com, 2009).

3.5 Infrastructure and Regulations

This factor involves the key business decisions in the coming years where we may see a shift from the current passive infrastructure sharing norm to an active infrastructure sharing. The decision of neutrality would play a key role in the sustenance of the telecom operators (Strategyand.pwc.com. November 2009).

4. The Way Ahead For Telecom Operators

Following are a few technologies which would play a pivotal role in the ICT domain in the coming years in terms of communication, finance, and data volumes (Capacitymedia.com. May 2011):

- Blockchain has the capacity to make the processes more safe, transparent and secure. It acts as a revolutionary technology which can be used to make transactions without the involvement of a foreign agent or party. Blockchain at this point of time is in the face of some challenges like the speed of transaction, the process of verification, limits on data volumes etc. which would make the implementation of Blockchain not widely applicable as the moderns currencies are coined and regulated by governments and financial institutions. (Binaifer Karanjia et. all. April 2017).
- MIMO systems have a strong potential to improve spectral efficiency, communication rate, and connectivity over single antenna systems, through diversity and multiplexing gains. This capability has been extensively studied for point-to-point MIMO systems, and further extended to multi-user MIMO (MU-MIMO), offering significant performance improvement relative to the single antenna and point-to-point MIMO communications. (Rodrigo Diehl et. all. 2015). Additional challenges include the simultaneous operation and combination of MIMO channel configurations and the decentralized or distributed decision-making system in MANET. The IAI and collaborators will design and implement the AMMO (Advanced MIMO MANET Optimization) system, which provides MIMO communication benefits to the tactical MANET (IBM Case Study, 2013).
- Berkeley Lab has increased the amount of information that can be transferred through independent channels by the use of different orbital angular momentums. Applications for this technology include navigation, seafloor mapping, offshore oil surveying, vessel detection, etc. New opportunities can be opened up by increasing the capacity of underwater communications (Lawrence Berkeley National Laboratory, 2017). The increased capacity would help in the transmission of high definition data from oceans' depth and the remote probes in the oceans would have no need to surface for sending this data (Lawrence Berkeley National Laboratory, 2017).
- Future 5G systems will convey critical difficulties, for example, the activity stack increment predominantly because of the expansion of versatile broadband correspondences. This will compel versatile system administrators to put resources into their frameworks to adapt to such information development. For bringing down both capital consumptions

and operational uses, the current systems administration will incline to SDN and NFV (IBM, 2016). SDN/NFV orchestrator that naturally serves MNO limit asks for registering and assigning virtual backhaul inhabitants. The EPC capacities are virtualized inside the cloud (vac), utilizing the NFV preferences. This expands MNO adaptability where cloud assets are instantiated by EPC needs. The objective of the SDN/NFV orchestrator is to mutually designate both system and cloud assets, sending virtual backhaul inhabitants and vEPC occurrences for various MNOs with various administration and limit necessities (i-a-i.com, 2016).

Apart from the technologies mentioned above, there are four different business models for the coming years in the ICT industry as proposed by Booz & Company (Strategyand.pwc.com, 2013):

Model 1: Network Guarantor - These model operators assess the network potential to create income and profitability by providing services which are derived out of open infrastructure services.

Model 2: Business Enabler - This model is a "double-sided" business model which equip their end customers with broadband services as per their requirement while on the other side they manage the business of service providers, empowering them with broadband, exchange and distributed computing.

Model 3: Experience Creator - In the new times where consumers want for new applications and administrations seems voracious—for the most part in the midst of youth whose lives are continuously spent in the advanced domain. Experience makers along these lines exploit this developing business sector by empowering the consumers with global connectivity and exceptional experiences. (Rodrigo Diehl et. all 2015)

Model 4: Global Multi-marketer - This model is essential when the telecom operators are present in multiple markets and geographical locations. It offers them enhanced global coverage and paves a way for becoming global leaders in true essence (Rodrigo Diehl et. all 2015).

5. Conclusion

The increase in purchaser demand and innovative adaptability are coming together to make an altogether different world for the telecommunications business. The telecom operators have to shift their approach from the conventional technologies and models in order to sustain and compete with new competitors which will emerge from the new open ecosystem due to more advanced technologies and devices (Strategyand.pwc.com. 2013). They have to make realistic and steadfast strategies and choose the best-suited business models according to their customer markets and capabilities to survive and focus of continual improvement in the face of the challenges and threats to effectively perform and do business.

References

Tsotsis, A (2010, November). *Stack Overflow Hits 10M Uniques, Boldly Goes Where No Q&A Site Has Gone Before*. Retrieved from https://techcrunch.com/2010/11/25/stack-overflow-hits-10m-uniques-boldly-goes-where-no-qa-site-has-gone-before/

Binaifer Karanjia et all. (April, 2017). *Blockchain technology benefits and challenges*. Retrieved from https://www2.deloitte.com/content/dam/Deloitte/in/Documents/strategy/in-strategy-innovation-blockchain-technology-india-opportunities-challenges-no-exp.pdf

Bloomberg. (2010). Telefonica's Tuenti to Start Low-Cost Mobile-Phone Service.

Capacitymedia.com. (May, 2011). *Evolving business models in wholesale telecoms*. Retrieved from http://www.capacitymedia.com/Article/2828436/Evolving-business-models-in-wholesale-telecoms

Capgemini. (2010, May). Innovating the Telco Business Model. Magyar Telekom & E.ON AG Sign Power Retail Sales Deal. Hungary: Wireless Federation. Retrieved from https://www.capgemini.com/wp-content/uploads/2017/07/Innovating_the_Telco_Business_Model_Drivers_and_Emerging_Trends.pdf

Capgemini.com. (2015) *Innovating the Telco Business Model Drivers and Emerging Trends*.. Retrieved from https://www.capgemini.com/wp-content/uploads/2017/07/Innovating_the_Telco_Business_Model_Drivers_and_Emerging_Trends.pdf

Cecilia Kang.The Washington Post. (2010, June). AT&T Wireless Scraps Flat-rate Internet Plan. Retrieved from http://voices.washingtonpost.com/posttech/2010/06/att_wireless_scraps_flat-rate.html

Connected Planet Online. (April , 2009).FTTH provider's Customers Bury their Own Fiber. Retrieved from Connected Planet Online.

Enders Analysis. (2010). *Mobile Revenue Growth and Outlook Q2 2010.*

i-a-i.com.(2016). *Advanced-multiple-input-multiple-output-mobile-ad-hoc-network-optimization*. Retrieved from: https://www.i-a-i.com/?news/2017/iai-to-continue-developing-an-advanced-multiple-input-multiple-output-mobile-ad-hoc-network-optimization-system-for-the-army

IBM.com (2013). *IBM Case Study.*

IBM. (2016). *New Business Models for Telecom*. Retrieved from 03.ibm.com: http://www-03.ibm.com/ibm/history/ibm100/us/en/icons/smartertelco/

Lawrence Berkeley National Laboratory. (2017, June). *Data in single acoustic beam for underwater communications*. Retrieved from phys.org.

Diehl, R., Fagan, S., Langen, R., & Loebel, D. (2015). *McKinsey B2B: The future role of telcos in ICT market.* Retrieved from: https://www.mckinsey.com/~/media/McKinsey/dotcom/client_service/Telecoms/PDFs/RECALL_No17_B2B_Trends.ashx

Jones, R. (2015). Mobile Provider Giffgaff Makes First Customer Payouts. Retrieved from https://www.theguardian.com/money/2010/jul/10/mobile-provider-giffgaff

Statista (2017). Retrieved from Statista.com. https://www.statista.com/statistics/274774/forecast-of-mobile-phone-users-worldwide/

Strategyand.pwc.com. (November, 2009) *After the Downturn: The Four Trends Shaping Telecom's Future*. Retrieved from https://www.strategyand.pwc.com/me/home/press_media/management_consulting_press_releases/article/47186552

Strategyand.pwc.com. (2013). *Reinventing the Business of Telecom*. Retrieved from https://www.strategyand.pwc.com/me/home/press_media/management_consulting_press_releases/article/48981108

Sushma Vishnani. (2017, March) *Recent developments that disrupted Indian telecom space*. Retrieved from https://www.businesstoday.in/opinion/columns/recent-developments-that-disrupted-indian-telecom-space/story/248127.html

TeleGeography. (2010, September). Vodafone Unveils LTE Rollout Plans, Confirms Tariffs.

Vakulenko, M. (2015). *Voice: Breaking free from the telecom business models*. Retrieved from slashdata.co.