
A CRUX TO GLOBAL SLUMP IN INTERNATIONAL MOBILE ROAMING

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ABSTRACT

Digital economy has dominated the global economic sphere. Facts show a steep decline in revenue from International Mobile Roaming in each successive years. Local WIFI, tourists SIM and costlier roaming charges are amongst the reasons for decline. Different countries across the world adopted varied pricing policies for IMR. All pricing policies are in one or the other way successful in addressing the current international roaming scenario but are not cent percent efficient in long run as there are evidences that show a recurrent review of such policies. So, this article suggests a new paradigm of uniform global pricing policy in IMR. For this apart from pricing model, other 5 elements need a primary focus before execution. i.e., Quality of service (QoS), consumer behavior and consumer protection, taxation implications, competitiveness of market and currency exchange differences.

Keywords: International Mobile Roaming, Telecommunication, Pricing Policy.

I. INTRODUCTION

E-business, e-businesses infrastructure and e-commerce are the major constituents of digital economy. The digitalization has continued predominance in the global economy. Today, humans are inveterate to technologies. We are more obsessed to internet than ever. We have technical aid at our first touch. The world has encountered changes through 30 tons ENIAC as first automated digital computer to 2-3 pound of superfast computers. This transformation has brought a significant turnaround in technological advancement. Telecommunication is a part of Information and Communication Technology (ICT). Early telecommunication technologies developed gradually. The first generation (1G) was introduced in 1940, with successive developments of second generation (2G) or GSM technology, then third generation (3G) and so on. Each new generation was characterized by better network managing and a content organizing capability (Dunnewijk et al., 2007). By the 20th century, Guglielmo Marconi demonstrated the principle of wireless communications and shortly after intercontinental satellites made it possible to view events in real time (Carne, 1984). Approximately 4.9 billion people (63% of world's population) are using internet in 2021 (ITU, 2021). There are currently 193 state members and 900 companies, international and regional organizations providing telecommunication services (ITU, 2019). Tele density has increased both in rural and urban sector. Fixed telephone, cellular mobile, internet, SMS and data services are the major services provided by telecom carriers and international mobile roaming is one of the key services amongst others. IMR is the use of remote network while in another territory. International Roaming has always been a prominent topic of discussion as this field is very challenging in terms of its accountability, network sharing issues, tariff fixation, cross boarder gateways and pricing policies. This research paper will focus more on the gradual decline in roaming revenue, its probable reasons and possible future prospects.

II. INTERNATIONAL TREND ON PRICING POLICIES

Different countries around the world followed different trends while networking international mobile roaming. To carter the high prices of roaming bills in Europe, European Commission started regulatory approach within European Economic Area (EEA) through a slogan roam like at home (RLAH). It hampered both the Domestic Service Provider (DSP) and Foreign Service Provider (FSP) to some extent. This Decision was reviewed time and again in 2009, 2012 and 2017 through wholesale and retail price capping (Spruytte et al., 2022). The Asian Telecom Companies have different approach to international mobile roaming. The telecom companies have agreement with one another to setoff tariffs for network used in DSP and FSP. There is an exception to China, Chinese travelers can call home at price that would cost a price similar to a local call. (Perez et al., 2017). While in the United States, the level of roaming charges is not regulated by the government but set by American and international operators through private agreements on the costs of using each other's networks to connect calls. In Arab states, there has been frequent state-interventions on the price waiver by mobile network operators (MNO) on international roaming services. No concrete decision has been made till date although

multiple attempts has been made from regulators to implement price cuts (Sutherland, 2011). In Australia and New-Zealand, a pre-negotiated price is ascertained between the DSP and FSP through agreements. However, call connection, call duration and time of the day may vary the pre-determined rates. The East African community (Burundi, Kenya, Rwanda, Tanzania, Uganda) made a joint agreement to bring down the high cost of mobile roaming. For this, one network area (ONA) roaming initiative was implemented by EAC (Eboh & Ohuocha, 2017). For Caribbean nations, operators use zoning approach by setting common pricing plans while there are other operators who carefully price each island separately. For Cruise ships, a satellite connection is used which excels the price of IMR even more. There are telecom companies like Digicel which was a pioneer in providing low tariff roaming services within its network between: Aruba, Barbados, Grenada, Jamaica, St Lucia, St Vincent and the Grenadines (Sutherland, 2010).

III. CURRENT STATUS

International mobile roaming has always been pivotal in telecommunication. Its contribution to the EU market was estimated at 8.5 billion pound or 5.7 per cent of total annual mobile revenues in 2010 (Sutherland, 2010) as compared to 1 per cent of overall revenue for European telcos in 2020 (Fildes, 2020). The overall revenue from International Mobile roaming has been \$820 billion in 2020 (Sharma, 2020). The Australian telecom company TELSTRA encountered a revenue decline of 8 per cent largely due to roaming impact as compared to 2019. Mobile income drastically declined by 8.1 per cent amounting to 9310 million dollars in which roaming loss was around 200 million dollar (TELSTRA Corporation Limited, 2021). A Singapore company, SINGTEL recognized a steep decline 21 per cent in mobile roaming. (Singtel Optus Pty Limited, 2021). Also, SPARK New Zealand incurred a revenue loss of 38 million dollar leading to overall revenue decline of 0.8 per cent to 3,593 million dollar (SPARK New Zealand Limited, 2021). The largest American telecom company AT&T acquired two Mexican wireless company benefitting 100 million people in Mexico in 2019. The subscribers were able to use roaming services in DSP and FSP at a domestic rate. Thus, this move of AT&T setoff the probable loss as a result of COVID-19 outbreak to some extent. The Danish Telecom companies TDC group also faced a decline in roaming revenue in 2020 and 2021. Proximus group had a decline in revenue of 70 million euro. (Proximus Group, 2020). KPN Netherlands also could not stay immune in COVID crisis in 2020 and 2021. As China mobile is one among the largest telecom companies as per its subscriber base is concerned, it too faced tough time after tariff reduction policy in international roaming as it incurred 19-billion-yuan (US 2.7 billion dollar) loss in revenue in 2018 (Perez et al, 2017). Therefore, COVID-19 impacts have not affected Chinese roaming revenue to a greater extent in year 2020 and 2021, as it was already in a declining phase. India's Telecommunication has also been impacted by roaming decline as international mobile roaming has been contributing about 12 per cent of telecom revenue each month. The outbreak of COVID-19 resulted in restricting roaming revenue to 8 per cent (Sengupta, 2020). The outbreak of one network area (ONA) in east Africa as a regulatory intervention to waive off surcharges while roaming in Kenya, Rwanda, South Sudan and Uganda has ended the roaming pattern in east Africa. A South African telecom company, MTN would have a revenue growth rate of 2.3 per cent in the absence of impact of roaming revenue. (McLeod, 2020). A Brazilian telecom company, Telefonica sustained a decline in revenue at 16.1 per cent revealing a bleak influence from roaming service (Telefonica, S.A, 2020). One of the leading network operators for mobile, broadband and fixed line in 27 countries having majority operations in Europe i.e., Orange Group had a roaming revenue decline of 63.8 per cent in 2020 (Brown, 2021).

The overall result of the financial performance of the major telecom companies during COVID-19 crisis has been regressive with a major setback in roaming revenue. COVID-19 outbreak resulted in reduced footsteps of tourists which ultimately reduced earnings from overall roaming services. Research was conducted in 6 major cities of England-Hereford, Loughborough, Norwich, Nuneaton, Stockport and Welwyn Garden city. Since the first COVID 19 case was confirmed, footfalls reduced by 17 per cent. The lockdown decreased footfall at an average of 68 per cent. With reopening of non-essential shops after the lockdown, footfall was 40 per cent lower on an average (Rayner et al.,2021). Post the COVID-19 impact, customers are inveterate to online payments as local traders realized the importance of WIFI to attract customers to promote safer and paperless payment system. Today, a lot of vendors are adopting the same system of receipt and payment via online forum, which is indirectly hampering roaming services. From a corner kiosk to colossal departmental store, WIFI is

freely available to elevate customer movement during low trading times of pandemic. As a result, a tourist with a multifunctional smartphone opts a freely assessed WIFI for connectivity via video-conference (zoom, skype, WhatsApp, etc.) rather than switching on the costlier roaming packages offered by telecom companies. Also, local SIMs or low-cost SIM are the services that targets global travelers. There are silent roamers who disable mobile broadband upon international landing and rely on local WIFI and in-country SIM cards. Thus, these facets of current roaming behavior can never be neglected in agendas linked with steep fall of roaming revenue globally.

IV. CONCLUSION

International Mobile Roaming is itself at a strenuous state to revive post COVID-19 impacts. Even ITU-T guidelines and OECD cost model of roaming cannot resurrect this service in long term, if no strategic planning is proposed in immediate future. The main problem with roaming service is that its pricing is very high and with availability of local Wi-Fi facilities in every nook and corner of the world, it's incredulous to believe that customers will switch on their cellular data for connectivity. In European Union, 94% of travelers limit their use of mobile phones in some way or other because of current pricing strategies. (KPMG International Limited, 2011).

V. RECOMMENDATION

It is a high time that this debilitated business needs to be prioritized. Telecom companies now need to focus more on alternatives to mobile roaming through video conferencing (zoom, WhatsApp, skype) and over the top (OTT) services. The regulatory agencies need to focus on the weakness and future threats to combat strength and future opportunities. For this, price revision is first and foremost factor to bring about a change in consumption pattern of subscribers. If prices are reasonable, it is sure that people will prefer cellular network activities over any other alternatives. The telecom companies together with regulatory agencies need to collectively re-evaluate the current roaming pricing strategy and develop a scientific business model which would justify the business revenue taking customer satisfaction on a top priority. A uniform pricing model has to be planned and executed. The world has already seen pricing model such as European Union scheme of roaming around Europe which was revised and re-evaluated multiple times, the Chinese waiver to roaming service, inconsistency in Arabic state for imposing roaming charges, East African one network Area Scheme and others. It is a natural phenomenon that people will move across globally for multiple purposes and they need connectivity. The world is being narrowed gradually. A person in Texas today will have a breakfast at India, lunch at south Africa and dinner at Australia. This is possible through gigantic advancement in technology. Thus, even though roaming business is showing a steep decline today, this service will never defunct as people will connect in one or the other way while they are in another territory. This research is focused not to adopt the alternative mediums rather to revive this continued business. For this, strategical model needs to be propounded and mandated uniformly all across the territories. A model should be customized in collaboration with the telecom companies and the regulatory agencies. The following elements apart from pricing strategy need a primary focus before ratification:

1. Quality of service (QoS)

For the purpose of low pricing strategy, quality should never be compromised. It strictly needs to follow the quality guidelines of the regulatory bodies. Quality control mechanisms to be checked and enforced for enhanced roaming service with reduced cost.

2. Consumer behavior and consumer protection

Consumer behavior is the study of how people buy, what they buy, when they buy and why they buy (Kotler, 1994). The economic model of consumer behavior states that consumers try to maximize returns from product utilization on the basis of law of diminishing marginal utility. The model is based on Income effect, substitution effect and price effect.

- **Income effect:**

The income pattern of end users will determine the spending pattern. A middle range earner may not spend money as much as high earners do. Therefore, telecom companies need to offer user targeted roaming plans which would benefit all the customers with varied earning range.

• **Substitution effect:**

We live in an era where complementary services are always welcomed. It is a source of customer attractions. Likewise, Telecom companies need to offer varied range of alternative packages, offers, bonuses, discounts, etc. to attract customers to use roaming services.

• **Price effect:**

A uniform pricing strategy need to be addressed globally. The pricing model should target all the roamers with high, medium and low spending patterns.

3. Taxation implications:

There is always a debate of double taxation implications in international roaming service. The state, federal and withholding taxes of inter and intra country needs to be assessed before fixing prices of roaming services. Extra precaution needs to be taken before finalizing roaming price so as to abstain the unnecessary tax burden to end users.

4. Competitiveness of market:

There should be a balance between Competitive pricing and competitive market. The price needs to be revised periodically to maintain the competition in market otherwise there is a high chance of losing loyal customer base.

5. Currency Exchange differences:

There is always an impact on roaming revenue due to exchange differences. Different institutions follow different mechanisms to deal with exchange currencies while invoicing. It has a material impact in IMR. Forex is the area that needs exploration in immediate future in roaming services.

APPENDIX

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