

Issues and challenges in mobile internet in Sri Lanka

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Abstract

The development of telecommunication is an essential factor to the economic sector while having an impact on opportunities. For communication among economic acts all around the world as well as inside a country. Nowadays, network providers give quality connections and opportunities to retrieve information by different technologies, traffic plans, and their service has become an essential part of society. Examining the leading network provider in Sri Lanka by using theoretical findings of telecommunication and technologies of communication is the main aim of this research. The monographic method, induction deduction method, and graph comparison method have been used in the research. Theoretical features of telecommunication, leading mobile network providers in Sri Lanka, financial performance indicators of those network providers, service and traffic schemes given by them, and competitiveness among them have been described in the research. Investigating the mobile traffic schemes and services provided by various network providers, it has been visible that they are almost similar in comparison but looking at each offer more closely revealed that some variations are essential to the customer and things that must overlook. After looking at the competitiveness among these network providers, it can conclude that in Sri Lanka, Dialog scored the most number points. In contrast, Mobitel and SLT scored points to become second and third in the race, respectively. By looking at the main factors in this comparison, Dialog must improve its ratings in areas like discounts given to the customers, the charge of the service, and supply of the service where others scored more points than Dialog.

Keywords: Information Communication Technologies, Internet Speed, Internet Cost, Signal Strength, Economy, Sri Lanka

1. Introduction

Sri Lanka is a small island located in the south of the Indian ocean, nearly has a population of 22 million, which is contained with a total area of 65 610 km² [1-2]. Twenty-six years have passed since Sri Lanka got unrestricted commercial internet access. In South Asia, Sri Lanka became the first country to do so. Since then, there has been rapid growth in telecommunication companies [3]. Because of that, communication opportunities have been developed and still developing for the economic side. In earlier days, people used a dial-up modem to access the web and manipulate electronic mail, internet relay chat and

text-only web pages. But these days, the life pattern has changed drastically, and the internet has become an indispensable part of everyone's day-to-day life and in our economy. In 2021, there were nearly 15.60 million internet users in Sri Lanka, as shown in the data given by the Telecommunication Regulatory Commission [4] of Sri Lanka. Differences between various traffic plans given by multiple mobile communication.

Providers in Sri Lanka are nonsignificant. Comparing mobile internet [5-7] in Sri Lanka can be done under main categories like the speed of the internet connection, signal strength of the internet connection, Affordability of internet connection. Throughout the last decade, the evolution of telecommunication has given Sri Lanka opportunities in the economic sector which have not been there before. By taking assets of cellular telecommunication, businesses and financial moves can make sure speedy and efficient communication. Companies located in Sri Lanka can provide high-quality communication to their targeted customers and provide their services to the global market. The increase of telecommunication companies has been immense in Sri Lanka in the past few years. Due to that, opportunities in economic moves in communication develop rapidly and improve frequently. Today cellular telecommunication companies provide high-quality telecommunication and data recuperation opportunities by various services, technological features, and data traffic plans called necessary network providers. Investigating the leading cellular network service provider in Sri Lanka by using theoretical innovations of telecommunication and cellular communication technologies is the primary purpose of this current research. Main tasks of this research.

1. To investigate hypothetical findings of telecommunication and technologies of communication.
2. To investigate the dominant cellular communication service benefactors in Sri Lanka, and services are given by them, and the competitiveness among them.

The following conditions have been shown: Differences between the mobile traffic plans given by these dominant cellular network providers in Sri Lanka can be neglected because the differences are not considerable. The monographic method, induction and deduction method, graphic method, comparison method, and competitive assessment method determined from the competitive index are used in this research. Information in this research paper has been extracted from specialist literature, research papers written according to telecommunication and communication technologies, other public resources, and trustworthy internet resources. Covid 19 has become the leading health issue worldwide and Sri Lanka [8-10]. The number of patients is increasing daily. In a situation like that, the internet will be a crucial part of everyone's life to use the internet to use services like E-banking and E-studying until people around the world are vaccinated. So having and quality mobile internet connection will play a significant role in everyone's life due to the world's present situation.

2. Theoretical characteristics of telecommunication and technologies of communication.

Telecommunication has been considered as a tool in this research for developments in remunerative and communal sectors throughout humanity by magnifying the aspects of ICT (information and communication technologies) for advancements, and telecommunication can be used as a part of that.

Information and communication technology giving many opportunities to change the social environment around people is an obvious fact that has can be proven by looking at the world these days. Quality internet, smartphones, and social media, which are parts of information communication technology, are becoming popular among people these days. Those parts affect people's perspectives, society and its culture, strategies, and policies made by people or the governing bodies and usually winners or losers in different subjects. Whether people use these parts of information communication technology to bring a good change in society is still questionable and has been challenged continuously over time.

Information technology can be stated as a comparatively young subject to the people which opens up a massive number of opportunities to the world. People forget to think and ask what the primary purposes of using information technology in their lives can be due to its modernity. Those are things that can be executed literally with it.

Dispersion of information communication technology has no value if the user can't decide which is the best way to use it for good and at the same time for his benefit. Then rises a crucial question from the potential and perspective: things that can be done to our capabilities through information technology? It is frequently written in communal and economical experimental writing that the world's frugality is recently going to develop into an informational economy. Additionally, this economy is increasing worldwide in its scope. Furthermore, it can be stated that those economic schemes which are not connected to these informational Networks around the world will have a crucial time to withstand in the long run of their career, as a result of increased competition in merchandise reaching everywhere [11]. While the first decade of this millennium was over, it became very clear that a leading subdomain of international and national scholarships in Sri Lanka, policies and practices in Sri Lanka has been information and communication technologies. Information and communication technology has already arisen inside and outside the wide area of telecommunication and communication, advancements, and communal changes. Nevertheless, the acts of information communication technologies in improvement were addressed in later part of the 19th century as if sated correctly in nearly 1980s and 1990s, and the hastened spreading of digital communication technologies throughout the world within such shorter period of time enhanced the possibilities to share the information globally around the world and enhanced development. This Millennium is going forward with many technological changes and enterprises that inspired thoughts and discussions. Academics and activists have criticized information communication technology for development for making the same mistakes over and over again which has been doing in earlier decades, while information communication technology for development tends to focus on the things that countries and global regions bear and the things that they don't have, ignoring the differences within those countries and those regions [12]. The technological opportunities given by this new and enhanced underlying infrastructure aids limitless transmission capacity on the famous and more reliable optical fiber networks. These advancements will have an impact on a more profound convergence on cellular and

fixed-line networks [13]. There are many mobile groups all over the world, not only in developed countries but also in developing countries. Countries in the Europa union and countries in Asia are the best examples with powerful institutions that help economic exchanges through a standard industry regulation [14]. Over time computing and telecommunication technologies have been gathered, the capabilities in businesses worldwide and good social networking programs have increased rapidly. Social programs are growing at an unimaginable rate compared to the earlier days of networking. These nettings differ from each computer network or the neighborhoods in that given network of benevolences is overlapped on the existing geographic neighborhood. This can be accomplished by implementing electronic benevolences and strategies to communicate in addition to maintaining the current inhabitants of the given area but to intensify it by designing an appealing way of living of inbuilt true and implicit benevolences [15]. The electronic telecommunication division is uncommon as it depends on particular technological characteristics that present frequent significant investment issues. The transformation which is happening is that switching from traditional cellular telecommunication systems to all internet protocol packet exchanged data grids will confront electronic communication systems entrepreneur's business schemes further. Due to that, entrepreneurs must be modernized or substitute their existing network to accommodate the implementation of fifth-generation (5G) frequencies [13]. Due to the growth of pervasiveness in cellular communication and swift modernization in the cellular market, the media market became highly capricious, where customers must adjust again and again to changeable stages and ever-developing priorities. Around the same moment, the increase of using smartphones in Sri Lanka and other instrumental media leads to additional complications and enrichments in cellular communications [16]. This research describes and explores the dominant cellular communication provider in Sri Lanka, their services given to the customers and traffic plans given, and the competitiveness between them. The dominant cellular network provider in Sri Lanka was determined by using the information provided in the annual report of each given companies and rank is shown according to them.

3. DOMINANT CELLULAR COMMUNICATION PROVIDER OF SRI LANKA: SERVICES, PACKAGE PLANS GIVEN BY THEM AND COMPETITIVENESS AMONG THEM

Over time, Dialog became the most prominent and dominant cellular operator in Sri Lanka when considering the number of clients, annual turnover, network coverage given by companies, and wideness of the customer service. In Sri Lanka, all network providers offer limited connection, so that looking at some other countries is an area that these companies need to address. As the dominant entrepreneur in the business, Dialog gives a more extensive range of formidable quality telecommunication services to their clients, such as voice communication, limited but high-speed internet connections. And also, a service called Dialog tv to watch foreign tv channels and Sri Lankan tv channels and some other services. Due to the factor that Dialog became the dominant provider of cellular communication in Sri Lanka, Dialog became an essential component in the social sector and economic sector in Sri Lanka. Sri Lanka Telecom (SLT) and Lankabell became the main competitors to Dialog In the meantime. Due to this competitiveness, these cellular

service providers were driven to have a good effective communication with the clients and create new ideas to make this competition more challenging for other companies. Annual turnovers of the given companies are shown in the table given below [17-24].

Company	2018 turnover (billion rupees)	2019 turnover (Billion rupees)	2020 turnover (Billion rupees)	Difference between turnovers (Billion rupees)
DIALOG	109.2	116.8		7.6
SLT	81.45	85.95	91.12	5.17
LANKA BELL	2.96	2.96	2.72	-0.24

Table 1. Annual turnover of the company

By looking at the table, it can be stated that dialog became the leader in the cellular communication market, considering the turnovers and profit. But in the time span of 2018 to 2019, SLT made a significant increase in turnover. By viewing the indicator shown in this table, we can say that SLT increased its investments in its network and development, which allowed the clients to choose this network and improve their trust in this corporation.

The cellular communication benevolence providers offer a larger number of benevolences such as selling cellular phones, laptops and personal computers, smarts assistance and dwarfish-scale domestic equipment across quality voice communication and high-speed internet connection. In Sri Lanka, cellular companies divided the allocated data of some traffic plans as daytime and nighttime data except traffic plans with unlimited data. Traffic plans provided by the given cellular communication providers for voice communication are summarized in the table below [25-27].

Dialog			
Name of the Traffic plan	Price of the traffic plan (Rs Per Month)	GB included in the traffic plan (Day Time)	GB included in Traffic plan (Night time)
Starter package	900 + tax per month	20	20
Lite package	1400 + tax per month	35	35
Lite plus package	2900 + tax per month	80	80
Ultra-package	3900 + tax per month	110	110

Office ultra-package	6900 + tax per month	200	200
Office plus package	9900 + tax per month	300	300
Booster package	16400 + tax per month	500	500
Booster plus package	29900 + tax per month	1000	1000
Sri Lanka Telecomm (SLT)			
Name of the Traffic plan	Price of the traffic plan (Rs Per Month)	GB included in the traffic plan (Any Time)	GB included in the traffic plan (Free data)
Any beat	1290	36	
Web family plus	1490	36	54
Any flix	1790	53	
Web family active	1990	45	65
LTE unlimited	2250	unlimited	
ADSL unlimited	2450	unlimited	
Any blaze	2490	72	
Web family extra	2690	60	90
Lanka Bell			
Name of the Traffic plan	Price of the traffic plan (Rs Per Month)	GB included in the traffic plan (Any Time)	GB included in Traffic plan (Night time)
Starter pack	950	27.5	27.5
Intro pack	1350	38.5	38.5
lite pack	1900	55	55
Family pack	2650	77	77
Family lite	3800	110	110

Family max	7600	220	220
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Table 2. Various traffic plans and their prices

By looking at the cellular traffic plans given by these three cellular communication companies, It can be seen that there are some differences between them. By evaluating those differences, it can be seen that some information was important to the users, which they must pay attention to before choosing an operator.

By summarizing the overall table, data given below was gathered:

- SLT is the only company among these three companies gives unlimited internet connections.
- In Dialog traffic plans excessive amount must be paid due to the government tax, but in the other two companies, they have been already added that tax to the amount shown in the table.
- Rather than the price of Dialog traffic plans, traffic plans given by the other two companies are cheaper.

Sri Lanka Telecomm provides an ADSL connection with a speed of 8Mbps-16Mbps while Lanka bell provides a 4Mbps connection and Dialog provides an 8Mbps connection.

By looking at the above details, Sri Lanka Telecomm and Lanka bell offers are more likely to attract new clients. Those offers have a good impact on those companies. By summarizing these traffic plans, it can be effectuated that the range of cellular communication benevolences is wide, and every client will be able to choose the most suitable preference for them. When choosing a network service provider, clients always tend to look at the things such as coverage, price, and their need. But more often, client’s decisions are influenced by various other factors like advertising campaigns of these companies, discounts given by these companies, recommendations given by people around you such as friends, and the company's creditability. These reasons can force clients to take an emotional decision without looking at it in a strategical view by not analyzing the advantages and disadvantages of that service provider.

Main factors of competitiveness	Given weight	Dialog		SLT		Lanka Bell	
		Rating	points	Rating	Points	Rating	Points
Quality	0.1	7	0.7	8	0.8	7	0.7
Price	0.1	7	0.7	9	0.9	8	0.8
Opening hours	0.1	8	0.8	8	0.8	7	0.7
Benevolence	0.1	7	0.7	8	0.8	6	0.6
Corporation image	0.1	7	0.7	8	0.8	6	0.6
Price reduction	0.1	6	0.6	9	0.9	6	0.6
Advertisement expedition	0.07	8	0.56	8	0.56	7	0.49

Corporation development	0.03	7	0.21	8	0.24	7	0.21
Professional manpower	0.1	7	0.7	8	0.8	7	0.7
Expertise	0.03	8	0.24	8	0.24	7	0.21
Implementation of modern technologies	0.07	7	0.49	8	0.56	7	0.49
Wide range of service	0.04	8	0.32	9	0.36	7	0.28
Monetary stability	0.06	8	0.48	8	0.48	7	0.42
Points gained	1	95	7.2	107	8,24	89	6.8

Table 3. Comparison among the network providers

By looking at the above table SLT scored 8.24 points and became the most economical and user-friendly network provider in Sri Lanka, while Dialog and Lanka Bell gained the Second and Third places respectively while scoring 7.2 and 6.8 points, respectively. According to table 3, Dialog needs to improve on their discount system compared to SLT.

Other key factors affecting this competition are given below:

1. New innovations and the progress of wireless broadband technology (increment in speed and quality of data transmission services)
2. Newly invented devices in the communication sector (advanced and value-added services has been provided)

Customers are keen to use more devices with a mobile connection.

4. Conclusion

Today in the world, telecommunication companies that provide quality information and communication services by various traffic plans, higher technological features and services are known as important telecommunication providers. Throughout the time, SLT became the leading telecommunication provider in Sri Lanka while Dialog and Lanka Bell viciously competed to increase the number of clients and to gain the leading service provider spot in Sri Lanka. SIT will have to make new offers to customers, which will increase the value of the company as well as his faith in the clients towards their company. By looking at the traffic plans of each company it can be stated that overall traffic plans are similar but saying that when investigating thoroughly there were some small differences among them. All these companies should do innovations to their infrastructure as well as

introduce new technologies such as 5G and improve the technologies which they are using right now.

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