Determinants of Telecommunication Technology Adaptation by Malaysian ICT Companies

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ABSTRACT

Cost of telecommunication companies have become one of the top expense in most of the companies because of the offering of services and complexities via rapid growth. There is need of understanding of the complex and erotic ways of services, features and technologies. The study conducted will attempt to identify and measure the adaptation of telecommunication technology, particularly VoIP service by ICT companies in Malaysia. A set of extensive questionnaire is developed in order to provide this study with qualitative and quantitative results. The sample used for this study comprise 80 working class of employees from ICT companies were targeted at the main cities in Malaysia. The findings from this study signify that the impact caused from the evolution of telecommunication technology especially the emergence of VoIP service apparently have indicated positive response towards the adaptation of new telecommunication technology by ICT companies in Malaysia.

INTRODUCTION

Industry of telecommunication has become the largest one from the many decades, while the industrial growth in this industry is resulted by the enhancement in areas of services, while especially in the wireless and data. The wide range of performance, flexibility and connection has conveyed convincing approach from popularity to essential services. For the growth of technological market, technologies of networking wireless, emailing, internet access and text messaging has significantly contributed. There are rapid changing in the system and technological requirements in domain of telecommunications (Rangamohan V Eunni, Post, & Berger, 2005; De Silva et al., 2018a; De Silva et al., 2018b; Nikhashemi et al., 2013). From the last few years, the conversion between digital communication and analog, between wireless and wired networks, variant solutions and standards have been acquired, employed and changed to deal with various and new requirements of business. Thus the lower the functionality of the call, the more these three elements are isolated and operate independent of each other (Andren, Magnusson, & Sjolander, 2003; Dewi et al., 2019; Pambreni et al., 2019; Tarofder et al., 2017). For example, in a traditional call, the transmission medium is totally unaware of the intelligence that is being carried over the medium itself. Once the call is established, nothing will happen by pressing any of the digits and nothing will be changed, therefore the other two elements of the system are totally not useful.

Some plans have been constructed by Malaysia to form some aging of information by the leadership of strategic and intellectual age (Mandato, 2006). Some contributions of investing in the environment can enhance the innovation and help international organizations and Malaysian organizations to achieve the new advancements of technologies. With the improvement in such sector, Malaysia has somehow invented MSC with highly equipped technology along with infrastructure of telecommunication for helping the testing limits of techno

environment and future preparation (Rowe & Struck, 1999; Doa et al., 2019; Maghfuriyah et al., 2019; Nguyen et al., 2019). The expenses of information technology have been treated in a way that businesses have grown up by overcoming such mode of flaws prevailing in such sector. The companies usually pay bills and seem to the costs that are increasing with the extent of time. Some services and technologies of telecommunication have been strived by accessing the information (Sendin et al., 2015). The implementation and enhancement of new technological advancements have reverted the information "highway" into the description of "autobahn" while the only restraint remained in them is the optimal speed in the regime of telecom companies. The significance of this study will help to better understand the nature of the adaptation of telecommunication technology by ICT companies in Malaysia.

Telecommunication Industry

The competition and monopolies are changed by the policies of telecommunication by Malaysia. It is observed in the studies that there is cautious and lengthy procedure of privatization of organizations of STM and the competition of markets introduction. There are plenty of factors enumerated to the contributions of policy changing needs, while the competition absence in industry of telecommunication has raised numeric reforms (Santos, Wennersten, Oliva, & Leal Filho, 2009; Pathiratne et al., 2018; Rachmawati et al., 2019; Seneviratne et al., 2019; Sudari et al., 2019; Tarofder et al., 2019). There are several experiences that contributed suggestions which render that there will be no guarantee of efficiency improvements in the services of telecommunication until the competition prevails. It is seen and not possible to render or state that companies having competitive environment and privatization can if joint can never result in the efficiency improvement but the improvement in meeting demands of customers due to their better services and advancement of technology

can result some (Shen, 1999). The products of telecommunication are due by products of commodity and natural while there is no customization and little exhibition. Telecommunication companies are recognized due to their products and efficiencies to anyone and everyone and everywhere, while the main focus of vertical markets develop solutions to the users of some industries (Santos et al., 2009).

Telecommunication Technology

The intelligence itself can mean the words and concepts that are carried over the transmission path. "Hello, how are you today?" is an example of the intelligence of the call. But, it could also be the electrical signal that rep¬resents a fax transmission or another electrical signal that represents a modem connection. Finally, the program that controls the flow of the call, for example, the telephone number that we dial to get the person we want on the other end of the call (Sánchez, 2008). There are also several layers of very sophisticated programs that arrange and manage the communication path itself. The programming is near¬ly transparent, and perhaps even magical to the user. An important aim of the study is to explore and analyze variables which lead to the adaptation of telecommunication technologies by ICT companies in Malaysia (Brennan & Turnbull, 1999; Nikhashemi et al., 2017; Tarofder et al., 2019; Ulfah et al., 2019; Tarofder et al., 2016; Udriyah et al., 2019). This study also aims to examine the benefits from the customer perspective in order to determine what major improvements in business functionality could be obtained to the ICT companies by adapting new telecommunication services due to the evolution of telecommunication technologies over the last few years. For the recognition of networks of telecommunication to the international competition, many countries have implemented policy and procedure and certain up gradations to their priority networks while employing networks of wireless, wireless of satellite and using fibers, where in many parts the fiber deployment has been widely become necessity of demand for the ability to interconnect globally (Shin & Zicari, 2018; De Silva et al., 2018a; De Silva et al., 2018b; Nikhashemi et al., 2013). This research aims to provide an answer and principles of practices by ICT companies in Malaysia towards adaptation of telecommunication technologies.

LITERATURE REVIEW

At the beginning of the nineteenth century, ways of sending messages and conveying information were very limited. The very big towns had local newspapers and were linked by stagecoaches. Postal services had developed greatly in the eighteenth century. However, for the majority of people the only form of information transfer was by word of mouth, the main sources of information being the passing traveler or the wandering pedlar. In the early stages, system of telegraph was consisted of drums, mirrors and smoke signal use to sunlight reflects (Rangamohan Venkata Eunni, 2004; Dewi et al., 2019; Pambreni et al., 2019; Tarofder et al., 2017). There is a need of interpretation of signal methods to the working systems by all sides whether receiver or senders. In the age of industry, electronic telegraph is considered as the main technology of telecommunication, where it is similar to many other inventions of the last century. The prevailing technology is replaced by this although the cost is also reduced dramatically and the firm can use it as a monopoly, while the new technology

has replaced it ultimately (Bucheli & Salvaj, 2014; Doa et al., 2019; Maghfuriyah et al., 2019; Nguyen et al., 2019). By the beginning of the twentieth century a world-wide system of telegraph cables had been completed with the cable laid across the Pacific Ocean. The next significant development was the invention of the telephone (in Greek: the word means speaking at a distance) by Alexander Graham Bell in 1876 and his invention was patented in the USA. This method of telecommunication allowed people to speak to each other directly without the need for an operator to encode and decode the message.

Compared with the telegraph system, the rate at which information could be transferred increased (Esliger & Say, 2004; Pathiratne et al., 2018; Rachmawati et al., 2019; Seneviratne et al., 2019; Sudari et al., 2019; Tarofder et al., 2019). Ironically, Bell did not start out to invent the telephone at all. Instead, there was work on "harmonic telegraph," which would make it possible to carry messages of telegraph in multiple forms on a single wire. The telephone was independently invented practically by Alexander and Graham Bell of United States (Mandato, 2006). It is considerable for their invention and have had applied for the patent of their designs at the patent office of New York, while beating the gray bell in only hours. Unanimously the diaphragm of steel was firstly built by gray while the design of transmitter was unable to make. Bell System introduced the No.1 Crossbar System in 1938. Crossbar switching was carried out by a special circuit called a marker, which provided common control of number entry and line selection for all calls (Buhalis, 1999). There is great advancement in the industry of telecommunication, while the opportunities for the implementations are also wider in the current world. This study elaborated the competitive position of telecommunication by comparing it with the today's world where the direction are needed to be headed with most of the ideas that move fast and also enhances the opportunities for the next communities of business (Sadjadi & Omrani, 2010; Nikhashemi et al., 2017; Tarofder et al., 2019; Ulfah et al., 2019; Tarofder et al., 2016; Udriyah et al., 2019). Until the advent of VoIP, circuit switched, center stage switches in a hierar¬chical network dominated as the predominant architecture for telephone serv¬ice around the world.

There is a destination of telephones where the ringing is associated with the numbers dialed, while the set up is declared to be accomplished when the party responds the call. This call is basically linked with the connections of circuit modes: LEC POP to LEC switch, LEC POP to LEC POP, LEC switch to the party called and calling party to LEC switch. A procedure of billing begins when the answer to call is made, while when there is an hang up from the other party there is possibility of shut down circuit. In the emerging markets the voice tariffs are considered the way of transporting information from one place to another (Buhalis, 1999). Protocol of internet is considered as the switching packet of protocol now days, where the cost switching is also considered as the advantage to such circuit. Plenty of packets can be shared to the trunks when the plenty of voice calls are made, while such switching part is also stated as the nature of statistics.

And interestingly, it provides a competitive offering to standard international services without losing the qual¬ity of primary connections. Whether the "free" bandwidth available on the Internet is of sufficient qual¬ity to make this a viable alternative or not remains

to be seen. Internet has had a dramatic impact on the rollout of competitive telecom serv¬ices in the new telecom world order (Rangamohan Venkata Eunni, 2004; De Silva et al., 2018a; De Silva et al., 2018b; Nikhashemi et al., 2013). There is passing of IP's between the same machines via packets, where the responsibility of such sharing will prevail on TCP for such connection reliabilities (Bucheli & Salvaj, 2014; Dewi et al., 2019; Pambreni et al., 2019; Tarofder et al., 2017). In the networks of switched packets, the packets can be tested via many means and ways which adds higher significance to the services and it also donates that the software and equipments can be online tested in the process of development which was not possible in the industry of old telecom. The architecture of these systems is much closer; in fact the sys¬tems are often identical, using essentially the same server platforms, the same network connections and the same control programs.

Voice over web convention is at last transitioning for the undertaking. The underlying exhibition of VoIP was poor, with voice quality missing the mark regarding existing simple frame works (Olson, Hattaway, & Bower, 2007; Doa et al., 2019; Maghfuriyah et al., 2019; Nguyen et al., 2019). VoIP has much progressively potential to improve efficiency and change the manner in which individuals work (AlAli, Bash, AlForaih, AlSabah, & AlSalem, 2018; Pathiratne et al., 2018; Rachmawati et al., 2019; Seneviratne et al., 2019; Sudari et al., 2019; Tarofder et al., 2019). Sending VoIP is a significant choice that influences the whole endeavor, it's not only an issue for the office of CIO and IT. To make the correct call, various top officials should be included.

The fate of VoIP will be VoIP 2.0, where the emphasis is more on administrations and not on the cut rate valuing. VoIP 2.0 is the advancement of VoIP and it will permit everybody to exploit greater adaptability, more customization and all the more remarkable highlights. A bearer or other system supplier with a controlled, oversaw organize is the best alternative for business of VoIP. It's not free, yet may at present be less expensive than customary communication (Cuinas & de Lorenzo, 2010; Nikhashemi et al., 2017; Tarofder et al., 2019; Ulfah et al., 2019; Tarofder et al., 2016; Udriyah et al., 2019). Voice correspondence is a basic business apparatus and representatives and clients have both become used to profoundly solid assistance. VoIP speaks to a major change in the manner voice call will be dealt with. A fizzled VoIP execution is probably going to majorly affect execution. Clients won't endure a noteworthy drop in call quality and unwavering quality. Staff might be even less lenient. Make certain to assign adequate spending plan for preparing usefulness including things like incorporated informing and computerized telephone catalogs will be legitimately identified with the nature of client preparing (Duysters & Hagedoorn, 1998; De Silva et al., 2018a; De Silva et al., 2018b; Nikhashemi et al., 2013).

The way in to an effective execution is following an elevated level, key methodology that considers all the potential advantages and traps (Ortt & Schoormans, 2004; Dewi et al., 2019; Pambreni et al., 2019; Tarofder et al., 2017). Such part is the only part to make decisions that are truly informed. The temptations and pressures that are brought to bear by influential and power¬ful interests (often the government itself) to make short term, immediate profit-oriented decisions or non-decisions is enormous. There is no one way to plan the deregulation and liberalization of a previ¬ously monopolistic industry and there are many outside influences that will impact any such plan anyway (Séror & Arteaga, 2000; Doa et al., 2019; Maghfuriyah et al., 2019; Nguyen et al., 2019). Techniques like callback and VoIP obviously forced the decision in many locales.

The impact of the accounting rate on competitive services is drastic but the disparity in collection rates is what fuels the fires of entrepreneurs and makes it profitable; both to end users and service providers (Barczak, 1995). Competition here refers as "open access." Some framework has been done in context of privatization (Garcia-Murillo & MacInnes, 2003; Pathiratne et al., 2018; Rachmawati et al., 2019; Seneviratne et al., 2019; Sudari et al., 2019; Tarofder et al., 2019). In the wake of privatizing an imposing business model broadcast communications specialist organization, rivalry is brought and infused into the media communication industry in either a slow or a full swing process. In Malaysia, the division of telecommunication is used to be under government possession and control (Feasey, 2015; Nikhashemi et al., 2017; Tarofder et al., 2019; Ulfah et al., 2019; Tarofder et al., 2016; Udriyah et al., 2019). The only problem with this scenario is that as competitive as the telecom¬munications business has become, VoIP is just another competitor for consumer telecom expenditures. Margins in this business have slimmed nearly to the point where they no longer exist. One of the skills required in running a telecom business and the most critical is the management of the cash flow because the nature of the telecommunications business is high volume and low margin, there is lots of financial leverage (Sadowski, Dittrich, & Duysters, 2003; De Silva et al., 2018a; De Silva et al., 2018b; Nikhashemi et al., 2013). In 1996 the U.S. government passed the Act of Telecommunication. The motivation behind the demonstration is to accommodate a master serious, de-administrative national strategy system intended to quicken quickly private segment sending of cutting edge telecom and data innovations and administrations to all Americans by opening up all broadcast communication markets to rivalry. In addition, the goal of this new law is to eliminate the distinctions between local and long-distance phone companies, cable, cellular, broadcast and on-line service providers.

Following are the hypothesis of this study;

H1: Cost, security and access speeds significantly effects the adaptation of telecommunication technology by ICT companies.

H2: Reliability, quality of service and performance significantly effects the adaptation of telecommunication technology by ICT companies.

METHODS

The objective of this chapter is to discuss the methodology adopted to gather, analyze and interpret data from the questionnaire survey on adaptation of telecommunication technology by ICT companies in Malaysia.

Research Framework

We identified the Adaptation of Telecommunication Technology by ICT Companies in Malaysia as a dependent variable. The independent variable on the other hand can be identified as Cost, Security, Access Speeds, Performance, Reliability and Quality of Service.
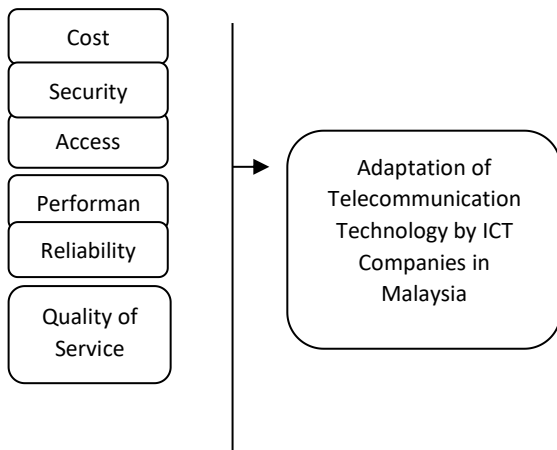
Figure 1: Research Framework of the adaptation of the telecommunication technology by ICT companies in Malaysia

Therefore, the review of this study will serve as a framework for this study concerning the factors that affect the adaptation of telecommunication technology by ICT companies in Malaysia such as higher speed, improve reliability, better performance, cheaper cost, etc.

Data collection

The data has been selected in the form of internet, records of public, letters and articles with some journals which reflect the evolution of telecommunications technologies as well as its adaptation to telecommunication technology have been conducted for data collection. Apart from that, informal (focus group) discussions with IT manager, IT consultant and business leaders have been conducted to gather data regarding the impacts of evolution of telecommunication technology and its adaptation to the new telecommunication technologies by ICT companies in Malaysia. A representative random sample selection of 80 ICT companies in Malaysia from various states such as Kuala Lumpur, Selangor, Melaka, Penang and Johor Bahru will be drawn in this research. Probability sampling gives more results that are valuable after conducting the research.

ANALYSIS
Descriptive Analysis

The descriptive analysis presents the maximum value, mean, standard deviation and minimum value for selected questions.

Table 1: Descriptive Statistics for Type of Communications

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Fixed Line Telephone	80	1	2	1.30	.461
Mobile Telephone (HP)	80	1	2	1.45	.501
IDD Call	80	1	2	1.76	.428
E-mail	80	1	2	1.13	.333
Facsimile	80	1	2	1.76	.428
Postal Services	80	1	2	1.94	.244
Other	80	1	2	1.86	.347
Valid N (listwise)	80				

Basically, there are 7 ways of communication medium that the author has identified under the category of "Other". Based on the mean value (1.13) E-Mail, as the most frequent being used by ICT companies indicated the lowest mean value among other communications. Fixed Line Telephone with mean value of 1.30 and followed by Mobile Telephone (HP) with mean value of 1.45 and etc. However, Postal Services indicated the highest mean value of 1.94.

Table 2: Descriptive Statistics for Type of Telecommunication Services

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Dial-up MODEM	80	1	2	1.78	.420
ADSL	80	1	2	1.21	.412
ISDN	80	1	2	1.78	.420
Digital Leased Line	80	1	2	1.76	.428
Frame Relay VPN	80	1	2	1.93	.265
IP-VPN	80	1	2	1.91	.284
ATM	80	1	2	1.98	.157
VoIP	80	1	2	1.79	.412
VSAT	80	1	2	1.96	.191
Wireless	80	1	2	1.65	.480
Hosting services	80	1	2	1.79	.412
Valid N (listwise)	80				

Based on the mean value (1.21) obtained from the table above, respondents have indicated ADSL as the most frequent option of telecommunication services. The next telecommunication services that indicated second lowest of mean value is Wireless (1.65). This is followed by Digital Leased Line with its mean value of 1.76. However, the fourth and fifth indicated both Dial-up MODEM & Digital Leased Line with mean value of 1.76 and VoIP & Hosting Services with equal mean values of 1.76 respectively.

Table 3: Descriptive Statistics for Type of Business Applications

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Voice over IP (VoIP)	80	1	2	1.76	.428
Video Conferencing	80	1	2	1.64	.484
Internet Access	80	1	1	1.00	.000
E-Commerce	80	1	2	1.46	.502
E-Mail	80	1	1	1.00	.000
Voice Mail	80	1	2	1.84	.371
Bulletin Board	80	1	2	1.83	.382
Telecommuting	80	1	2	1.76	.428
Interactive Television (iTV)	80	1	2	1.94	.244
Digital Video Surveillance System (DVSS)	80	1	2	1.85	.359
File Sharing / Transfer	80	1	2	1.30	.461
Intranet / Extranet	80	1	2	1.51	.503
SAP	80	1	2	1.95	.219
ERP	80	1	2	1.89	.318
CRM	80	1	2	1.91	.284
HRM	80	1	2	1.93	.265
Valid N (listwise)	80				

The mean values indicated for both of them are 1.00 whereas the standard deviation is 0.00. Hence, it can be concluded that no matter what type of telecommunication services being used, Internet Access and E-Mail are inevitable by ICT companies in Malaysia.

Inferential Analysis
Chi-Square Test for Goodness of Fit between Features and Technologies by ICT Companies

Table 4: Descriptive Statistics between Features and Technology

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Features	80	1.68	.569	1	3
Technology	80	2.01	.684	1	3

Table 5: Results of Chi-square for Features

Features

	Observed N	Expected N	Residual
Extremely Important	30	26.7	3.3
Very Important	46	26.7	19.3
Slightly Important	4	26.7	-22.7
Total	80		

Table 6: Results of Chi-square for Technology

Technology

	Observed N	Expected N	Residual
Extremely Important	18	26.7	-8.7
Very Important	43	26.7	16.3
Slightly Important	19	26.7	-7.7
Total	80		

Table 7: Chi-square Test Statistics

Test Statistics

	Features	Technology
Chi-Square[a]	33.700	15.025
df	2	2
Asymp. Sig.	.000	.001

a. 0 cells (.0%) have expected frequencies less than 5. The minimum expected cell frequency is 26.7.

The most important criteria with the little mean value of 1.68 obtained as compared to Technology counterpart with mean value of 2.01. Based on chi-square result, the 2 criteria between Features and Technology of telecommunication services are highly significant as indicated by the chi-square significant value of 0.000 and 0.001 for Features and Technology respectively which is below the alpha, value of 0.05. The chi-square value of Features is higher than the chi-square value of Technology with 33.700 and 15.025 respectively.

Multiple Regression and Correlation Analysis
For the purpose of checking link between dependent and independent variables regression and correlation is done.

Table 8: Descriptive Statistics of Level of Interest towards VoIP Service and Criteria of VoIP Service.

Descriptive Statistics

	Mean	Std. Deviation	N
Level of Interest Towards VoIP Service	2.56	1.261	80
Cost	1.31	.466	80
Features	1.64	.484	80
Reliability	1.61	.490	80
Security	1.83	.382	80
Access Speeds	1.73	.449	80
Performance	1.73	.449	80
Quality	1.66	.476	80
Support Services	1.88	.333	80
Maturity of VoIP Service	1.89	.318	80

Table 9: Model Summary of Regression Statistics.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755[a]	.569	.514	.879

a. Predictors: (Constant), Maturity of VoIP Service, Quality, Cost, Access Speeds, Security, Support Services, Performance, Features, Reliability

Table 10: ANOVA Result between Level of Interest towards VoIP Service and Criteria of VoIP Service for Overall Significance.

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	71.577	9	7.953	10.288	.000[a]
	Residual	54.111	70	.773		
	Total	125.687	79			

a. Predictors: (Constant), Maturity of VoIP Service, Quality, Cost, Access Speeds, Security, Support Services, Performance, Features, Reliability

b. Dependent Variable: Level of Interest Towards VoIP Service

Table 11: Regression Coefficients between Level of Interest towards VoIP Service and Criteria of VoIP Service

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.259	.924		-2.446	.017
	Cost	1.134	.235	.419	4.830	.000
	Features	.911	.245	.349	3.727	.000
	Reliability	.294	.261	.114	1.128	.263
	Security	-.408	.292	-.124	-1.400	.166
	Access Speeds	.387	.250	.138	1.546	.127
	Performance	.637	.263	.227	2.420	.018
	Quality	.456	.261	.172	1.746	.085
	Support Services	-.204	.336	-.054	-.607	.546
	Maturity of VoIP Service	-.016	.331	-.004	-.047	.962

a. Dependent Variable: Level of Interest Towards VoIP Service

Based on the descriptive statistics, respondents have indicated Cost as the main factors of Interest towards Adaptation of VoIP Service with the lowest mean value of 1.31. This is followed by other factors such as Reliability and Features with the mean value of 1.61 and 1.64 respectively. It is noted that the multiple coefficient of determination (R Square) is 0.569. This means that more than 56 percent of the Criteria of VoIP service shows the Interest towards Adaptation of VoIP Service is accounted for by the independent variables such as Cost, Features, Reliability, Security, etc. Based on (ANOVA) result is highly significant as indicated by the P-value (0.000) < (0.05). An examination of the coefficient values (1.134) indicate that Cost contributes the highest to the Level of Interest towards Adaptation of VoIP Service.

Table 12: Descriptive Statistics of Level of Interest towards VoIP Service and Criteria of VoIP Service

Descriptive Statistics

	Mean	Std. Deviation	N
Level of Interest Towards VoIP Service	2.56	1.261	80
Cost Savings	1.84	.702	80
Features	2.17	.632	80
Security	2.66	.693	80
Access Speeds	2.49	.795	80
Performance	2.45	.778	80
Reliability	2.58	.808	80
Quality of Service	2.59	.837	80
Support Services	2.66	.711	80
Service Level Guarantee	2.83	.759	80
Network Availability	2.54	.711	80
Maturity of VoIP Service	2.79	.741	80
Infrastructure of VoIP Service	2.85	.797	80
Increase Productivity	2.36	.661	80
Better Management Style	2.44	.726	80
Multi-Tasking	2.14	.707	80

Table 13: Model Summary of Regression Statistics

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.674[a]	.454	.326	1.035

a. Predictors: (Constant), Multi-Tasking, Access Speeds, Cost Savings, Support Services, Features, Infrastructure of VoIP Service, Network Availability, Increase Productivity, Service Level Guarantee, Security, Better Management Style, Quality of Service, Performance, Maturity of VoIP Service, Reliability

Table 14: ANOVA Result between Level of Interest towards VoIP Service and Criteria of VoIP Service for Overall

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.075	15	3.805	3.549	.000[a]
	Residual	68.612	64	1.072		
	Total	125.687	79			

a. Predictors: (Constant), Multi-Tasking, Access Speeds, Cost Savings, Support Services, Features, Infrastructure of VoIP Service, Network Availability, Increase Productivity, Service Level Guarantee, Security, Better Management Style, Quality of Service, Performance, Maturity of VoIP Service, Reliability
b. Dependent Variable: Level of Interest Towards VoIP Service

Table 15: Regression Coefficients between Level of Interest towards VoIP Service and Criteria of VoIP Service

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.508	.606		.837	.406
	Cost Savings	.962	.237	.535	4.059	.000
	Features	-.208	.267	-.104	-.781	.437
	Security	.273	.311	.150	.879	.383
	Access Speeds	-.035	.336	-.022	-.103	.918
	Performance	-.447	.361	-.276	-1.238	.220
	Reliability	.434	.385	.278	1.127	.264
	Quality of Service	-.313	.337	-.208	-.927	.357
	Support Services	.239	.308	.135	.777	.440
	Service Level Guarantee	-.055	.277	-.033	-.197	.844
	Network Availability	-.272	.287	-.153	-.949	.346
	Maturity of VoIP Service	.609	.372	.358	1.639	.106
	Infrastructure of VoIP Service	-.662	.311	-.419	-2.133	.037
	Increase Productivity	.672	.301	.352	2.235	.029
	Better Management Style	-.117	.313	-.067	-.372	.711
	Multi-Tasking	-.010	.299	-.005	-.032	.974

a. Dependent Variable: Level of Interest Towards VoIP Service

Based on the descriptive statistics indicated the little mean value of 1.84. This is followed by the criteria of Multi-Tasking and Features with mean value of 2.14 and 2.17 respectively. From the regression output obtained multiple coefficient of determination (R Square) is 0.454. This means that 45.4 percent of the criteria of VoIP service. Based on (ANOVA) result is highly significant as indicated by the P-value (0.000) < (0.05). It shows

how strongly each independent variable is correlated with the dependent variable.

Table 16: Expected Mean of Level of Interest in Adopting VoIP Service within Next Year

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Level of Interest in Adopting VoIP Service Within Next Year	80	1	5	2.54	1.043
Valid N (listwise)	80				

Table 17: One Sample T-Test of Level of Interest towards VoIP Service

One-Sample Test

	Test Value = 2.54					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Level of Interest Towards VoIP Service	.160	79	.874	.022	-.26	.30

The expected mean value is 2.54. On the other hand, the observed mean value is 2.56. Therefore, the t-value is 0.160 with 95% confidence interval. With the degree of freedom of 79, the p-value is 0.874. From the T-distribution table, t-critical value is 1.96.

Since tcal = t(79) = 0.160 tcritical = 1.96 and p-value = 0.874 = 0.05

Evidently, the two variables being tested here have no significant differences between each other. From the result above, more than ever it proves that the respondents have taken this questionnaire seriously. Accreditations have to be given to all respondents for their time and effort in representing ICT companies in Malaysia as a whole. One of the reasons being the high credibility of the respondents is due to the screening process where all respondents must be from IT Department or have technical knowledge in regards with telecommunication services being used in their company currently.

CONCLUSIONS

The telecommunications industry worldwide as in Malaysia is characterized by a high level of risk both in terms of technology and markets. The current major forces and trends shaping the industry include both technology issues whereby internet service providers are subject to a plethora of choice regarding how to best access and serve their customers and new services. One of the main findings of the surveys is that ICT companies view telecommunication services in a very positive light. Access to Information and Communication Technologies (ICT) has been growing, always exceeding global economic growth. Based from the results of the study, one purpose behind the sharp increment in broadband endorsers (ADSL administration) is the developing interest for quicker web speeds. Likewise, broadband administrations give web associations that are in any event multiple times quicker than prior dial up advancements, empowering clients to deploy business applications such as ERP, CRM or SAP and use other business services such as video conferencing, e-commerce, sharing of files as well and accessing of information faster and much efficient than earlier. Investigating examples of utilization of broadcast communication benefits in Malaysia and exhibiting progressively reasonable degrees of interest will improve the nature of telecom bearers that dynamic on access and help organizations by offering the most suitable transmission administrations. Moreover, the examination discoveries likewise ready to distinguish methodologies

for VoIP administration showcase advancement. In addition the findings show that telecommunication services have improved in the region, however major issue constraining the provision of VoIP services in Malaysia is mainly Cost factor. As a matter of fact, the adaptation of telecommunication technology in Malaysia particularly VoIP service have indicated positive responses. More attention and focus should be given to this matter on making available the benefits on new technologies.

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