A Model of Factors Affecting Adoptions of Mobile Services in India

Sorabh Puri

Research Scholar, Amity Business School, Amity University Uttar Pradesh, Noida, India,

R.S. Rai

Professor- Decision Sciences, Amity Business School & Deputy Director- Research, Planning & Statistical Services, Amity University, India, Noida UP,

Karunesh Saxena

Professor, Faculty of Management Studies, Mohanlal Sukhadia University, Udaipur, India,

Abstract

Fast-paced economic development, ever-growing population, rises in per capita income, better and cheaper communicating connectivity had made India a highly competitive market for telecom companies. Technological development and government policies have made it possible to avail mobile services in far flung regions, particularly in rural locations of the nation. In light to the largely used mobile services across the nation, the present study aims to understand and analyze the factors impacting on the adoption of mobile services in India with respect to the well-known framework of Technology Acceptance Model (TAM) for understanding the external influencing for mobile voice services and data usage on the basis of perception of ease of use and perceived usefulness is discussed. A survey analysis was conducted among 500 customers from Delhi NCR who have been associated with the selected telecom companies for more than the period of 5 year. Using regression analysis, it was found that there was much ease in using data services while for voice calling service the customers found it simply useful. However there was a negative influence of the attitude of customers with respect to the services provided by the telecom companies.

Keywords: Data, Voice, TAM, Ease of Use, Attitude, Telecom Companies and Regression Analysis

Introduction

India is amongst the fastest growing economies in the world, currently ranking as fifth largest economy (IBEF, 2018). The high growth in mobile technology sector has contributed in making the country an attractive market for telecom companies. Currently, India has the second largest number of mobile phone users, only next to China (Dey, 2015). The number of smart phone users is expected to reach 491 million by 2022 (eMarketer Editors, 2018). This high growth in telecom sector can be accredited to affordable and far searching penetration of mobile services in the nation. The main focus of the mobile service providing telecom companies is to reach out to the customers irrespective of their geographical location (Sangwan and Pau, 2005). However in Indian context, the complete potential of mobile services is yet to be achieved (Venkatram and Zhu, 2012). Therefore this study aims to analyses the mobile services adoption

driving factors with respect to technological adoption model. To do so, external factors such as, technological infrastructure, quality and availability of support services, market structure and mechanism, cost of handsets and services and modes of bill payments, brand reputation and flexible technology relevant to India are evaluated in this research study.

Need for the study

Technological revolution through decades of mobile services has contributed in creating potential customers wanting to adopt new technology (Hundal and Jain, 2011). The generation of mobile phones for 2G to 3G and now 4G has seen tremendous growth in the adoptability of mobile services (Sundar and Kanimozhi, 2017). Further, efficient and affordable technology has made customers eager to try different telecom services. In this context, the present research study is focused on investigating the factors impacting on the adoption of mobile services in India. Additionally, a proper understanding of factors impacting adoption of mobile services is useful for both telecom companies and the customers; it provides customers personalized information for adopting any service and gives telecom companies a possibility to be unique. Thus, a better understanding of factors impacting mobile services adoption is significant.

Aim of the study

The main aim of this study is to investigate the factors influencing the adoption of mobile services in India.

Literature Review

Factors affection adoption of mobile services in India

Technological competence: Many studies have shown that having a superior technological infrastructure provides telecom companies relative advantage and is considered to have direct influence on the adoption intention towards the mobile services. Use of standard based technology and efficient technological infrastructure provides reliability, accuracy and security to mobile services (Kalba, 2008; Hundal and Jain, 2011). Thus, it is a huge influencing factor behind adoption of mobile services in India. Relative advantage over others services as well as perceived utility of the mobile services, is a related factor to the use of superior technology than the previous one, which influences the adoption of mobile services in India(Makhal, 2015).

Quality and availability of support services: The impact of availability and quality of service provided by the telecom companies both online and offline, on the adoption of mobile services had been elucidated in many of the existing studies. This factor is subjective to expectation of every customer, many comparisons have been made between expectation from the services and real performances, and this factor is considered by customers before becoming a beneficiary of the mobile service (Hundal and Jain, 2011; Islam and Gronlud, 2011). There is also exists a link between ease of use, customer satisfaction and quality of service provided, which is significant for analyzing adoption of mobile services.

Market structure and mechanism: The structure of the market and its mechanism for any technological product are largely dependent on the government policies, human resource availability, degree of openness towards trade, acceptance level of existing technologies to name a few (Commin, 2004; Islam and Gronlud, 2011). This factor is crucial for determining the speed of adoption of mobile services in a developing country like India.

Cost of handsets and services and Modes of bill payments: Many of the telecom service providers offers cost and deployment benefits over the competing companies (Kalba, 2008). The cost of the services, mobile handsets and overall usage cost is a crucial factor for the customer and influences the adoption decision significantly. Developing countries generally have lower-income level per person as compared to the developed countries nations (Islam and Gronlud, 2011). Thus, the cost of mobile services a vital factor in the decision-making process of whether or not to adopt mobile service. In addition to this, the latest trend of digitization in the country has shown mixed results. A section of society have adopted digitization with ease and enthusiasm whereas, other is still far from reaping its benefits. Thus, mode of bill payment, both online and offline availability is a considerable factor for customers adopting any mobile service (Swaroop Debasish and Dey, 2015).

Brand reputation, Flexible technology: As per Kalba (2008)brand reputation is a crucial feature as it represents the social influence of the brand and its willingness to adopt newer innovation in the technological sector. Brand reputation can be considered analogous to social influence and customer's perception on the brand name, which has behavioral influence on the decision of adopting mobile services. Telecom companies can have a unique position, if they embrace new and flexible technologies such as Internet of things. It will provide them to support various utilities such as licensed spectrum, better security, scalable networks and such more(Islam and Gronlud, 2011; Allil and Khan, 2016).

Technology Acceptance Model (TAM)

TAM model is based theory of Reasoned Action (TRA), which was developed by Fishbein & Ajzen in the year 1980 and are generally used to tackle key challenges related to the field of information technology (Geroski, 1999). It also details one aspect that determines behavioral intention of the person's attitudes toward that behavior as shown in Figure 1.

The first two factors are the same as Theory of Reasonable Action, the third factor that is perceived control behavior that users perceive and which may limit their behavior (e.g: Can I apply for the credit card and what are the requirements?).Technology adoption is a decision taken by an individual or group to make use of the innovation in their lives, the decision-making process is complicated and end results is the adoption or rejection of the technology (Sangwan and Pau 2005). Many researchers have applied TAM model for gaining better insight on technological adoption (Seneler, Basoglu and Daim, 2008; Cowen and Kowalczyk, 2009; Makhal, 2015). Additionally, this model had been used in many studies to understand the diffusion and acceptance of mobile technology in a global perspective(Phan and Daim, 2011; Abu-Dalbouh, 2013; Osman, 2013). All the crucial parameters, which are selfexplanatory, of TAM model are presented in the following block diagram depicted in figure 1.





Figure 2: The final version of TAM model (Venkateshand Davis, 1996)



Conceptual Framework

Based on the findings of the existing literature and a

conceptual research model was developed which is presented in the following figure 1.



External Factors: Figure 3 : Conceptual framework for external factors impacting on adoption of mobile services.

Research Methodology

Research methodology is a plan of action developed using scientific procedure applications for resolving the research issue in a systematic manner (Kothari, 2004). The main aim of the study is to understand and study the factors that are impacting the adoption of mobile services in India. A descriptive and explanatory research approach was conducted as per the theme undertaken. The descriptive method aided in understanding the adoption of diffusion of mobile services and explanatory purpose had used for testing hypothesis formed. Following this, the study used deductive research approach that determines theory after analyzing the results of hypothesis constructed. Therefore this approach is much more appropriate in addition to the quantitative study being conducted. Based on quantitative analysis, the primary data was collected from the customers of four telecom service providers namely, Bharti, Reliance, Vodafone, Idea. This aided the researcher in understanding the external factors impacting adoption of mobile services. . Survey strategy was used here and 500 customers living in Delhi NCR region of aforementioned companies, who have been associated with the company for more than 5 years were surveyed using a well-structured close-ended questionnaire.

Data Analysis

Demographic Profile



Out of 498 respondents, about 59 % were males and the rests were females. In regards to the association with their respective companies, about 41% respondents were found to be associated for 8-10 years. Further in terms of educational qualification, approximately 54% respondents were graduates. Lastly in regards to the annual income of the respondents, 30% respondents were earning an annual income of 2 to 5 lakh per annum followed with 18% respondents earning 10 to 12 lakh per annum. Therefore, it can be inferred there was not much difference as to the

gender of respondents in the dataset. Majorly the respondents were highly associated with their telecom industries and earned fair annual income.

General background

Next the respondents were asked on different aspects related to the services provided by telecom services.

Perception on different aspects of mobile services



Figure 5: General Background

On being asked about that their telecom service provider are economical and suits their requirement, about 87 % of the respondents supported to this, further on being asked about facilitation of services in your day to day activities, around 60 % respondents agreed. In context of the quality of service provided, approximately 79 % respondents were of the view that the services improved their standard and quality of life. However about 48 % of the respondents were not able to discover whether these telecom service providers have innovated the services. Lastly about 58 % of the respondents were of the view that mobile services have a bright future.

Therefore, it can be viewed that mostly the customers are satisfied with the services provided by their telecom service provider but they are not sure that whether these telecom companies have made some effort to innovate their existing services.

Perception on experience and satisfaction of mobile services



Figure 6: Perception on experience and satisfaction of mobile services

Next, the respondents were inquired on their experience and satisfaction of using mobile services. About 39 % of the respondents strongly agreed with the fact that they get satisfactory roaming services. Further about 36 % strongly agree that they get satisfactory voice clarity. In context of the data services provided by the telecom companies, 38% respondents strongly agreed that they are satisfied with the speed of the internet. About 36 % respondents strongly agreed that they are satisfied with the quality of data services. Further, about 35% respondents strongly agreed that they are satisfied with the network quality and uninterrupted services provided by the telecom service provider. Overall there were mixed results attained in respect to data and voice services provided by telecom companies.

Inferential analysis

In order to determine factors of adopting mobile services, the TAM model encompasses following broad factors: External factors; perceived usefulness; perceived ease of use; attitude and behavioral intention. Following this correlation and regression analysis were undertaken such that the dependent variable is adoption of mobile service whereas the set of independent variables are the mean of the above mentioned factors underlying TAM model. The proposed broad hypothesis is:

H0: There is no significant impact of factors underlying Technology Acceptance Model on adoption of mobile services in India.

Following are the sub hypothesis based on two aspects of services provided: Data and voice services.

a) HA: There is no significant impact of data services on adoption of mobile services in India

b) HB: There is no significant impact of voice process on adoption of mobile services in India.

Analysis on Data services

For the analysis on data services, half of the sample size that is 249 respondents provided their responses.

Correlation Analysis

HA: There is no significant impact of data services on adoption of mobile services in India

		mean1(Exter nal Factors)	mean2 (Perceive d Usefulne ss)	mean3(Percei ved ease of use)	mean4 (Attitud e)	mean5(Behavi oral Intention)
Adopti on of mobile service	Pearson Correlati on	.646**	.780**	.843**	.578**	.592**
	Sig. (2 - tailed)	0	0	0	0	0
	Ν	249	249	249	249	249

A Pearson's correlation coefficient was used to assess the relationship of factors underlying TAM model that is external factors, perceived usefulness, and perceived ease of use, attitude, and behavioral intention, with adoption of mobile service in India. It can be identified from the table above, there was quite high correlation for all of the variables being significant at p<0.05. However the most strongly related variables were 'Perceived ease of use' (.843**) followed by application of 'Perceived Usefulness' (.780**). This means that perceived ease of usein respect to data services have a major impact on adoption of mobile services in India. This can be due to the fact that the technological innovation and services are much easier to use now and much preferred among all age groups.

In this regard, the study by Lai (2017), indicated that the perceived ease of use refers to the extent to which the users expect the target system to be effortless when using mobile services. Further in context to perceived usefulness, the study conducted by Talukder(2012) reveals that perceived usefulness is one of the dominant factors affecting the adoption of mobile service because the behavioural intention is determined by the usefulness of a factor that is users adopt a particular innovation due to its usefulness.

Regression Analysis

Regression analysis is undertaken including all the variables due to high and significant correlation of independent variables with that of the dependent variable.

	ANOVA ^a							
Mo	Model Sum of Squares Df Mean Square F Sig.							
	Regression	260.889	5	52.178	161.090	.000 ^b		
	Residual	78.709	243	.324				
	Total	339.598	248					

The model summary of the regression in the table above reflects that the hypothesis i.e. there is no significant impact of data services on adoption of mobile services in India is rejected since F value is significant at p<0.005. In

addition the F-value is high (161.090) so the probability for accepting alternative hypothesis results to be quite high and hence the hypothesis is rejected.

Model		Unstandardized	d Coefficients	Standardized Coefficients	t	Sig.
		В	Std. Error	Beta	1	
	(Constant)	.181	.107		1.693	.092
	mean1(Exter nal Factors)	.191	.039	.192	4.892	.000
	mean2(Perc eived Usefulness	.151	.059	.158	2.543	.012
	mean3(Perc eived ease of use)	.553	.061	.577	9.066	.000
	mean4(Attit ude)	272	.083	279	-3.286	.001
	mean5(Beh avioral Intention)	.330	.082	.330	4.036	.000

Further the coefficient regression analysis in the table above shows that all the variables are significant at p < 0.05. However, out of all significant variables, 'Perceived ease of use' contributed a major change to the adoption of mobile service in India since its standardized beta coefficient was highest of all being significant at p<0.05. This meant that there was ease in services now provided by telecom providers in consideration to this factor underlying TAM thereby leading to adoption of the mobile services among consumers. In this regard, the study conducted by He, Chen, & Kitkuakul (2018) discussed that perceived ease of use can be determined by a particular system which does not require much effort. With reference to TAM model, perceived ease of use was related to the use of e-commerce and search of information thereby reflecting a significant impact on customers.

It was also seen that 'Attitude' showed a negative impact on adoption of mobile services (-0.279) via the standardized beta coefficient, significant at p<0.05. This meant that this

factor underling TAM can depict a negative outcome on consumers for not using the mobile services since the services of telecom providers are not user friendly and complicated for the consumers. This results in no confidence or favorable attitude towards with adoption of mobile services by the consumers. In this context, the study conducted by Baile (2010) examined that attitude is a significant factor which affects the behavior of accepting or rejecting an innovation in technology. Also the study found that factors underlying TAM especially with regards to the negative attitude towards technology driven systems, discourages customers to use a particular system.

Analysis on Voice process

For the analysis on voice process, other half of the sample size that is 249 respondents provided their responses.

Correlation Analysis

HB: There is no significant impact of voice process on adoption of mobile services in India

		mean1(Exter nal Factors)	mean2 (Perceive d Usefulne ss)	mean3(Percei ved ease of use)	mean4 (Attitud e)	mean5(Behavi oral Intention)
Adopti on of mobile service	Pearson Correlati on	.723**	.864**	.805**	.628**	.650**
	Sig. (2 - tailed)	0	0	0	0	0
	Ν	249	249	249	249	249

The most strongly related variables were 'Perceived usefulness' (.864**) followed by application of 'External factors' (.723**). In regards to voice processes in association to TAM, there is perceived usefulness leading to adoption of mobile services in India. This means that the customers were much influenced by the fact of using the voice process thereby adopting mobile services. Further the external factors such as technological infrastructure, cost of services, bill payments also influenced the customer's in adoption of mobile services. In this regard, the study of Lai (2017) viewed that perceived usefulness to the customer improves their experience by using a particular technology. The process of social interaction and collecting information affects user's intention to adopt the mobile services.

Regression Analysis

Regression analysis is undertaken including all the variables due to high and significant correlation of independent variables with that of the dependent variable.

ANOVA ^a									
Model		Sum of	df	Mean Square	F	Sig.			
	Γ	Squares		(1.100	100.000	ooob			
	Regression	305.614	5	61.123	198.003	.000°			
	Residual	75.013	243	0.309					
	Total	380.627	248						

As per the model summary given above, the hypothesis i.e. there is no significant impact of voice process on adoption of mobile services in India, is rejected since F value is significant at p<0.005. In addition the F-value is high (198.003) so the probability for accepting alternative hypothesis results to be quite high.

Model Summary						
Model R R Square Adjusted R Square				Std. Error of the Estimate		
	.896 ^a	0.803	0.799	0.5556		

Further R square (80.3 %) and adjusted R square (79.9%) are quite high for the model regressed. So, this indicates that around 80% variation is contributed by the

independent variables in the dependent variable.

	Coefficients							
Model		Unstandardized Coefficients		Standardized Coefficients	Т	Sig.		
		В	Std. Error	Beta				
	(Constant)	.200	.100		1.995	.047		
	mean1(Exte rnal Factors)	.210	.040	.209	5.238	.000		
	mean2(Perc eived Usefulness	.557	.061	.585	9.115	.000		
	mean3(Perc eived ease of use)	.126	.059	.132	2.147	.033		
	mean4(Attit ude)	325	.087	336	-3.724	.000		
	mean5(Beha vioral Intention)	.381	.087	.387	4.369	.000		

The coefficient regression table above depicts that all the variables are significant at p<0.05. However, out of all significant variables, 'Perceived usefulness' shared a major change to adoption of mobile service in telecom sector in India since its standardized beta coefficient (.585)was highest of all being significant at p<0.05. This is due the fact that the consumers are well known to the fact that mobile services are widely used in association to voice process. In this context, the study conducted by Naiwumbwe (2012) showed that perceived usefulness is one of the major variables in Technology Acceptance

model(TAM) with respect to calling and its quality. This study presented the development of new system and planning with respect to voice processes in terms of its quality. Likewise the adoption of mobile services is also negatively influenced by the attitude of customers since its beta coefficient is -.336, being significant at p<0.05. The customers feel unconfident and unsatisfied with some of the voice processes services provided by the telecom providers. This will affect their decision on adoption to mobile services.

Results of hypotheses

Hypothesis	Results
Null Hypothesis: There is no significant impact of factors underlying Technology Acceptance Model on adoptionmobile services in India.	Rejected
HA: There is no significant impact of data services on adoption of mol services in India	^{bile} Rejected
HB: There is no significant impact of voice process on adoption of mo services in India.	^{bile} Rejected

Conclusion

In the past few years, the telecom industry in India is experiencing intense competition in terms of the cost of the services, speed of data, voice clarity, network quality, roaming services and other technological innovations. This has resulted into the exit of various telecom companies as well. For instance Aircel left the industry due to disruptive price war with free voice calls and cheap data offered by market leaders like Reliance Jio (Street, 2018). Therefore there is a need for companies to compete in terms of understanding the customer's requirement and acting to give maximum value to them in order to gain high reputation in the industry. Following this, the telecom companies need a framework like Technology Acceptance Model (TAM) to identify such requirements. This model is beneficial for identifying the customer's need and forecasting the application of mobile services both in terms of data services and voice processes.

Overall the results identified via the aforementioned analysis indicate that the customers considered usefulness and the perceived ease of using the mobile services in adoption of any mobile service. For voice process, the adoption of mobile services depends on the quality of network, productivity and effectiveness for the users. Further, the services which are easy to understand and operate are preferred by the users. However for data services, the external factors such as services related to technological infrastructure, cost of services, bill payments etc. were quite considered by the consumers before availing the services provided by telecom companies. Other factors like attitude of customers depicted a negative impact on adoption of the telecom services. This indicates that users follow an unfavorable attitude towards the adoption of mobile services and don't enjoy their mobile services. Therefore the telecom sector should focus on the user's experiences and behavior to offer better quality of services. This can be done by regular update on feedback and suggestions from the users.

In addition, the technological changes that are based on user's requirement offer advantage to the companies that in turn would be adopted by customers. The companies use modern tools and techniques that aid in deriving transparency on the network quality and voice clarity aspects to the users. For instance, Bharti Airtel delivers a truly transparent system for its users. It has opened up its entire mobile network information through a new interface which displays the coverage and strength of network across India in addition to the development status. Also, the company has a server based platform where users can check the network coverage in their area (Operator et al., 2017). This develops trust among the users. Therefore, companies need to undertake innovations in their operational process that are easy to use, transparent and improve user's experience.

References

- Abu-Dalbouh, H. M. (2013) 'A Questionnaire Approach Based on the Technology Acceptance Model for Mobile Tracking on Patient Progress Applications', Journal of Computer Science, 9(6), pp. 763–770.
- Allil, K. and Khan, M. N. (2016) 'International Review of Management and Marketing Factors Affecting Adoption of Mobile Services', International Review of Management and Marketing, 6(S4), pp. 5–6.
- Baile, S. (2010) 'Perceived Usefulness, Perceived Ease of Use, Attitude and Actual Usage of a New Financial Management System? Requirements for the Award of a Masters Degree of Science', (June).
- Commin, D. (2004) 'Cross-country technology adoption: making the theories face the facts', Journal of Monetary Economics. North-Holland, 51(1), pp. 39–83. doi: 10.1016/J.JMONECO.2003.07.003.
- Cowen, J. B. and Kowalczyk, N. (2009) The Influence of Perceived Usefulness, Perceived Ease of Use, and Subjective Norm on the Use of Computed Radiography Systems: A Pilot Study.
- eMarketer Editors (2018) More than a Quarter of India's Population Will Be Smartphone Users This Year eMarketer Trends, Forecasts & amp; Statistics.
- Geroski, P. A. (1999) 'Models of Technology Diffusion', Research Policy, 29(4-5), pp. 603–625.
- He, Y., Chen, Q. and Kitkuakul, S. (2018) 'Regulatory focus and technology acceptance: Perceived ease of use and usefulness as efficacy', Cogent Business and Management, 5(1), pp. 1–22. doi: 10.1080/23311975.2018.1459006.
- Hundal, B. S. and Jain, A. (2011) ADOPTION AND DIFFUSION OF MOBILE SERVICES IN RURAL PUNJAB SUMMARY. GURU NANAK DEV UNIVERSITY AMRITSAR.
- IBEF (2018) Services Sector in India: Overview, Market Size, Growth, Companies...IBEF.
- Islam, M. S. and Gronlud, A. (2011) 'Factors Influencing the Adoption of Mobile Phones among the Farmers in Bangladesh: Theories and Practices', International Journal on Advances in ICT for

Emerging Regions (ICTer), 4(1), pp. 4–14.

- Kalba, K. (2008) The Adoption of Mobile Phones in Emerging Markets: Global Diffusion and the Rural Challenge, International Journal of Communication.
- Kothari, C. R. (2004) Research methodology? methods & techniques. New Age International (P) Ltd.
- Lai, P. (2017) 'the Literature Review of Technology Adoption Models and Theories for the Novelty Technology', Journal of Information Systems and Technology Management, 14(1), pp. 21–38. doi: 10.4301/S1807-17752017000100002.
- Makhal, A. B. (2015) 'A Study of the Factors Influencing the Adoption of Mobile Banking Services by Bank Customers, a Quantitative Research', International Journal of Management and Commerce Innovations, 2(2).
- Naiwumbwe, M. (2012) 'Perceived Ease Of Use , Perceived Usefullnes , Behavioural Intention To Use And Acceptance Of Mobile Money Transfer Services', Journal of Business & Management, 2(3), pp. 54–67.
- Operator, S. et al. (2017) 'Airtel delivers a truly transparent network', 11.
- Osman, N. B. (2013) 'Extending the Technology Acceptance Model for Mobile Government Systems', in The International Arab Conference on Information Technology.
- Phan, K. and Daim, T. (2011) 'Exploring technology acceptance for mobile services', Journal of Industrial Engineering and Management. Universitat Politecnica de Catalunya (UPC), School of Industrial and Aeronautic Engineering of Terrassa (ETSEIAT), 4(2), pp. 339–360.
- Sangwan, S. and Pau, L. F. (2005) Diffusion of Mobile Phones in China, ERIM Report Series.
- Seneler, C. O., Basoglu, N. and Daim, T. U. (2008) 'A Taxonomy for Technology Adoption: A Human Computer Interaction Perspective', in PICMET 2008 Proceedings, South Africa, 2008.
- Street, D. (2018) 'Aircel bankrupcy'.
- Sundar and Kanimozhi, S. (2017) Intention To Adopt 4G Mobile Services in India: An Investigation of the Moderating Effect of Gender Through The Decomposed Theory of Planned Behaviour, International Journal of Business and

Management Invention (IJBMI) ISSN.

- Swaroop Debasish, S. and Dey, S. (2015) 'Factors Affecting Adoption of Mobile Banking: An Empirical Study in the State of Odisha', IJMBS, 5.
- Talukder, M. (2012) 'Factors affecting the adoption of technological innovation by individual

employees: An Australian study', Procedia -Social and Behavioral Sciences. Elsevier B.V., 40, pp. 52–57. doi: 10.1016/j.sbspro.2012.03.160.

Venkatram, R. and Zhu, X. (2012) Factors affecting the Telecom industry in India