## Global marketing

Technology, Mobile Phone



AN EMPIRICAL ANALYSIS OF CONSUMER SWITCHING BEHAVIOR TOWARDS MOBILE NUMBER PORTABILITY K. Kumaresh1 and S. Praveena2 Research Scholar, Department of ARM, TamilNadu Agricultural University, Coimbatore Email: 1kumaresh. tnau@gmail. com, 2sspriyamba@gmail. com ABSTRACT India is the third largest mobile network in the world after China and USA. Indian mobile market is one of the fastest growing market. India has seen rapid increase in the number of players which caused the tariff rates to hit an all time low. This allowed the players to target the low income population thereby increasing the market share. The availability of a number of subscriber options for consumers and varied tariff rates of each player, lead the consumers to switch between service providers. Mobile number portability permits to a mobile subscriber to switch operators without changing his/her telephone number. This study focuses on the mobile number portability among the mobile users in Erode district of TamilNadu. Mobile number portability is now a crucial issue for mobile service providers. The most challenging job for the present day is that retain existing mobile customers. The mobile operator's ability to retain its customer has a direct impact on its profitability and effectiveness. Losing a customer will affect the mobile operators in terms of cost. Percentage analysis, Garrett ranking and Factor Analysis were used for this research. The results revealed that promotional offers, family orientation and service affordability is the most important factor influencing the mobile subscriber intention to switch service provider. From this study most of the respondents were satisfied with the Mobile Number portability. Keywords: Mobile Number Portability, Switching Behaviour, Service, Customer satisfaction. INTRODUCTION The telecom

industry is one of the fastest growing industries in India. India has about 200 million telephone lines making it the third largest network in the world after China and USA. With a growth rate of 45 per cent, Indian telecom industry has the highest growth rate in the world (www. telecommunications. com). The mobile communication plays a major role in telecommunication industry. Indian telecommunication sector is prosperous as Indian economies are considerably good. Mobile network comes under the service sector, which is VOLUME NO. 1, ISSUE NO. 11 10 ISSN 2277-1166 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com experiencing a rapid development which in turn is supporting the growth in Indian economy, provides ample chances employment and self employment generation. As mobile number portability has been introduced in India, retaining existing customers is now a very tough job for network providers. After the introduction of mobile number portability in India, the mobile user's switching turnover is more. This paper brings to light the reasons behind that Mobile Number Portability on Switching Behavior-Indian Mobile Market. Mobile Number Portability is the process by which, one can move to another operator of one's choice, but one can retain the old number. The advantage is that one need not have to go through the problem of informing all your friends & family that your number has changed - it stays the same. Subscriber can keep with the same technology, GSM/CDMA. Also shift to CDMA or vice versa. Both post-paid & prepaid subscribers can use it. Globally, the introduction of MNP across markets has witnessed a mixed response from customers. The push for MNP implementation has always been led by market regulators in an effort to

provide mobile customers with the freedom to move between service providers and drive healthier competition. Globally, among the major countries, Singapore was the first to implement MNP In 1997, followed by Hong Kong, Australia, Germany, US and France etc., MNP has been introduced in India, in two phases. It has been introduced first in Indian metro city and group A telecom zones, on December 31, 2009, and afterward in the remaining part of the country, by March 20, 2010. Subscribers have to pay up all due bills before making an application for MNP. The mobile porting fee is to be paid to the latest operator. No fee payment is necessary to be given to the operator for porting. TRAI said that porting between mobile operators be supposed to be accomplished within four days. Prepaid users must keep in mind that their balance talk time and SMS will disappear if they switch to a different operator. According to the Indian telecom regulator TRAI, nearly 8. 54 million subscribers were issued porting requests in the month of April 2011, an increase of 32. 98% month on month. (www. mnp-india. com). PROBLEM FOCUS The present study seeks to examine the impact of Mobile Number Portability on mobile users switching behavior-Indian mobile market. It aims to analyze the magnitude of mobile number portability. An attempt is also made to identify the major factors influencing the switching behavior of mobile number portability. With greater choice and increasing awareness, Indian consumers are increasingly demanding better quality of service or else switchover over to other better service. The main aim of this research is use to determine the effect of Mobile Number Portability (MNP) among the mobile users of Erode district of TamilNadu. OBJECTIVES The objectives of the study are to find out the

factors influencing customer mobile number portability, to identify the problems encounter by the respondents to switchover another service provider and to suggest strategies to retain the customers for the service providers. VOLUME NO. 1, ISSUE NO. 11 11 ISSN 2277-1166 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com CONCEPTS AND REVIEW Gerpott et al. (2001) investigated the structural relationships of subscriber retention, subscriber satisfaction, and loyalty in German mobile subscribers. He found that subscribers have positive impact towards the MNP. Buehler and Haucap (2004) investigated the effect on MNP implementation on consumers' welfare. They reported that MNP implementation will benefit the entrant firm and will hurt the incumbent. Pagani (2004) identified the determinants of adoption of 3G mobile multimedia services and found that perceived usefulness, ease of use, price, and speed of use are the most important determinants of adoption of 3G multimedia mobile services. Smura (2004) reported that MNP helps the firms to acquire new subscribers, but operators are faced with the task of having to retain their existing subscribers, which may sometimes be harder to do. Shin (2006) investigates the effect of MNP in the USA and reported that MNP was an important cause of decreasing switching cost. Wu et. al., (2008) identified the behavioral Intention of 3G mobile telecommunication services has positive influence towards use behavior and Social Influence of 3G mobile telecommunication services has positive influence towards behavioral intention. METHODOLOGY In order to study the Mobile Number Portability in Erode city, both primary and secondary data were collected. Secondary data was collected from different

magazines, newspapers and government publications. For collection of primary data from respondents (customers) separate well structured interview schedule was prepared based on the objectives of the study and pretested. For this purpose 100 MNP customers randomly selected from the different mobile services in Erode city. The following statistical techniques were used to analyze the data Percentage analysis, Factor analysis, Discriminate analysis and Garrett ranking. RESULTS AND DISCUSSION General Profile of the Respondents The general profile of the respondents comprises of basic details such as age, gender, education, occupation and family income. The demographic details of the respondents were analyzed and the results were given in table 1. VOLUME NO. 1, ISSUE NO. 11 12 ISSN 2277-1166 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com Table 1. Age wise distribution of the respondents Demographic characteristics Age classification Particulars 50 Total Male Female Total Illiterate SSLC HSC Under Graduates Post Graduates PhD Total Self employed House wife Government employee Private sector Students (unemployed) Farmers Total 40, 000 Total No of respondents 3 45 22 20 10 100 80 20 100 9 9 10 23 32 18 100 12 7 13 26 32 10 100 4 34 21 20 13 100 Percentage to total 3. 00 45. 00 22. 00 20. 00 10. 00 100. 00 80. 00 20. 00 100. 00 9. 00 9. 00 10. 00 23. 00 32. 00 18. 00 100. 00 12. 00 7. 00 13. 00 26. 00 32. 00 10. 00 100, 00 4, 00 34, 00 21, 00 20, 00 13, 00 100, 00 Gender Educational status Occupation Monthly income From the Table 1, it could be inferred that majority of the respondents belonged to age group of 21-30 years followed by age group of 31-40 years and they were male. Most of the MNP customers

were well educated and it would be easy for the case firm to communicate to the customers regarding the promotional activities, to explain the product features and to introduce any new variety of products. Considerable share of the respondents' were house wife and students, hence the family income of the respondents was considered for this study. Major share of the respondents have a family monthly income of Rs. 10, 001-20, 000 per month followed by respondents with family monthly income of Rs. 20, 001-30, 000 per month. Thus the firm should concentrate on low income and middle income group while designing products, schemes and pricing of mobiles and services to increase customer base. VOLUME NO. 1, ISSUE NO. 11 13 ISSN 2277-1166 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com Mobile usage among the respondents In this section brand of mobile phones used by the respondents, reasons for using mobile phones, factors influencing the purchase of mobile phones, number of connections and phone connectivity were discussed. Table 2. Brand of Mobile phones used by the respondents S. No 1. 2. 3. 4. 5. 6. 7. 8. Brand Nokia Samsung Reliance LG Song Ericson Gfive Karbon Micromax Total No of Respondents 58 21 5 4 3 6 1 2 100 Percentage to total 58. 00 21. 00 5. 00 4. 00 3. 00 6. 00 1. 00 2. 00 100. 00 Now a days large number of brands of mobiles are available in the market. It could be concluded that, major share of the respondents (58 per cent) were using Nokia followed by Samsung brand (21 per cent). Other brands used by the respondents were Reliance, GFive, LG and Sony Ericson, Karbon and Micromax. Table 3. Reasons for using mobile phones S. No 1. 2. 3. 4. 5. 6. 7. Reasons Personal needs To stay in touch while move Business

needs as a substitute for land line phones Emergency needs Influence of friends Prestige Garrett score 80. 12 61. 87 58. 39 57. 72 53. 76 50. 06 47. 43 Rank I II III IV V VI VII Garrett ranking was used to analyze the reasons for using mobile phones. Majority of the respondents were using mobile phone for their personal needs followed by to stay in touch while move, business needs, substitute of land line phones and emergency purpose. Table 4. Factors influencing the purchase of mobile phones S. No 1. 2. 3. 4. 5. 6. 7. Factors Price of the mobile Appearance of the mobile Advertisement After sales service Features of the mobile Brand name Warrantee Number of Respondents 46 19 3 2 31 41 7 ISSN 2277-1166 14 VOLUME NO. 1, ISSUE NO. 11 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com The reason for purchasing a particular brand of mobile is important because customers have wide variety of options to buy mobiles. Understanding the factors that influence the customers' choice of handset will enable the companies to design the handset product mix to suit customer needs. The above table showed the multiple responses of the respondents. It could be concluded that Price of the mobiles was the most important factor influencing the purchase of mobiles followed by brand name of the mobiles. Features of mobiles, Advertisement, after sales service and warrantee are the other factors that should be considered factors considered while selecting the mobile phones. Table 5. Number of connections S. No 1. 2. 3. Connection 1 2 3 Total No of Respondents 70 28 2 100 Percentage to total 70. 00 28. 00 2. 00 100. 00 Form the above table 5, it could be concluded that majority of the respondents having only one connections followed by two connections. Some

of the respondents were self employed and employee in private respondents. Table 6. Payment for phone connectivity S. No 1. 2. 3. Service availed Prepaid Post paid Both Total No of Respondents 90 8 2 100 Percentage to total 90. 00 8. 00 2. 00 100. 00 From the above table, Most of the respondents (90 per cent) were using prepaid service and the remaining respondents (8 percent) using post paid services. Interaction with the respondents also revealed that most of the respondents switched over from postpaid to prepaid due to billing problems. Hence the case firm should concentrate more on the billing systems to increase the number of post paid customers. Mobile Number Portability (MNP) In this section source of information about MNP, number of times ported, switching behaviour were discussed. Table 7. Sources of information about MNP S. No 1. 2. 3. 4. 5. Source of information Advertisement Relatives Retailers Friends Family Total No of Respondents 43 13 7 31 6 100 Percentage to total 43. 00 13. 00 7. 00 31. 00 6. 00 100. 00 ISSN 2277-1166 15 VOLUME NO. 1, ISSUE NO. 11 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com It is evident from the Table 7, that major share of the respondents (43 per cent) advertisements was the major source of information followed by friends, relatives and retailers. Considerable share of the respondents were aware of MNP through friends and relatives, so the case firm should provide promotions like offers and discounts for the persons who motivate their relatives and friends to subscribe their own service. The sales person also should be trained to communicate the promotions effectively to noncustomers in a friendly manner and not as product pusher. Table 8. Type of

cellular service provider at present S. No 1. 2. Service provider Public sector (BSNL) Private i) Airtel ii) Aircel iii) Vodafone iv) DOCOMO Total No of Respondents 6 35 20 20 19 100 Percentage to total 6, 00 35, 00 20, 00 20. 00 19. 00 100. 00 From the above table it could be concluded that most of the respondents using Airtel followed by Vodafone and Aircel. BSNL could take necessary steps to increase the customers and also retain the customers by providing better offers and promotions. Table 9. Number of times ported S. No 1. 2. 3. Port 1 2 3 Total No of Respondents 98 2 0 100 Percentage to total 98. 00 2. 00 0. 00 100. 00 From the above table it could be concluded that major share of the respondents ported at one time followed by two times ported. As per TRAI regulations, the eligibility of porting times is up to four times. Respondents' Switching Behavior The respondents' switching behavior towards various services that can act as a measure of impact made by the firm in the minds of the customers. It can help the firm to frame polices towards promotional activities. Respondents' switching behavior was analyzed and the results are presented in further tables. Table 10. Respondents' switching behavior from BSNL (Public to Private) S. No 1 2 3 4 Switched over from BSNL Vodafone Airtel Aircel DOCOMO Total Number of Respondents 7 10 13 2 32 16 % to total 21. 87 31. 25 40. 63 6. 25 100. 00 ISSN 2277-1166 VOLUME NO. 1, ISSUE NO. 11 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com The above table showed the respondents switched over from BSNL to other service provider. It could be concluded that from the institutional to non institutional category, most of the BSNL users switched over to Aircel and Airtel because of offers

and promotion. Here Airtel and Aircel are the gainers. Family influence and better offers are the main reasons for switching. Table 11. Respondents' switching behavior to BSNL (Private to public) S. No 1 2 Switched over to BSNL Vodafone - BSNL Aircel -BSNL Total Number of Respondents 4 2 6 % to total 66. 67 33. 33 100. 00 The above table showed the respondents switched over to BSNL from other service provider. In this category, poor coverage and poor customer service are the main problems faced by the respondents to switch over to other service. Table 12 a). Respondents' switching behavior from Airtel (Private to Private) S. No Switched over from Airtel 1 Aircel 2 Vodafone 3 DOCOMO Total Number of Respondents 3 4 5 12 % to total 25 33. 33 41. 67 100. 00 The above table showed the respondents switched over from Airtel to other service provider. Most of the Airtel users switched over to DOCOMO and Vodafone because of less call rate. Most of the respondents faced frequently getting advertisements, unwanted messages and calls from the Airtel service provider are problems faced by the respondents. Table 12 b). Respondents' switching behavior from Aircel (Private to Private) S. No 1 2 Switched over from Aircel Airtel Vodafone DOCOMO Total Number of Respondents 8 6 8 22 % to total 36. 36 27. 28 36. 36 100. 00 The above table showed the respondents switched over from Aircel to other service provider. Most of the Aircel users switched over to DOCOMO and Airtel because of call rate and family influence. Most of the respondents faced poor customer service from the Aircel service provider. Table 12 c). Respondents' switching behavior from Vodafone (Private to Private) S. No Switched over from Vodafone 1 Airtel 2 Aircel 3 DOCOMO Total VOLUME NO. 1, ISSUE NO. 11 17 Number of Respondents 6 4 4 14 % to total

35. 30 23. 52 41. 18 100. 00 ISSN 2277-1166 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com The above table showed the respondents switched over from Vodafone to other service provider. Most of the Vodafone users switched over to DOCOMO and Airtel because of good customer service. Poor coverage is the main problem faced by the respondents in Vodafone service. Table 12 d). Respondents' switching behavior from DOCOMO (Private to Private) S. No 1 2 3 Switched over from DOCOMO Airtel Aircel Vodafone Total Number of Respondents 11 0 3 14 % to total 78. 57 0. 00 21. 43 100. 00 The above table showed the respondents switched over from DOCOMO to other service provider. Most of the DOCOMO users switched over to Airtel because of less roaming charge compare with DOCOMO. Less promotion and poor coverage is the main problem faced by the respondents in Vodafone service. Table 13. Reasons for switching behavior S. No 1 2 3 4 5 6 7 8 9 10 11 Reasons Family members Friends Brand image Network coverage and strength Rates (Call rate and message rates) Subscription plan price Better offers / Promotion Better customer service Billing Tariff 3G technology No of respondents 30 27 11 41 67 24 58 34 8 28 6 The above table showed the multiple responses of the respondents. It could be concluded that call rates were the major influencing factor to switch particular service provider followed by better subscription plan, network coverage, better offers and promotion, influence of friends and family members. Factor Analysis Factor analysis is a multivariate statistical technique used to condense and simplify the set of large number of variables to smaller number of variables called factors. This technique is helpful to identify the underlying factors that

determine the relationship between the observed variables and provides an empirical classification scheme of clustering of statements called factors. VOLUME NO. 1, ISSUE NO. 11 18 ISSN 2277-1166 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com Table 14. Factor analysis total variance explained Initial Eigen Values Component Total 1 2 3 4 5 6 7, 159 2. 431 1. 968 1. 647 1. 094 0. 804 % of Variance 34. 088 11. 577 9. 373 7. 841 7. 241 5. 203 Cumulative % 34. 088 45. 665 55. 038 62. 874 70. 227 75. 430 Rotation sum of squared Loadings % of Cumulative Total Variance % 3. 893 18, 539 18, 539 3, 524 16, 829 35, 368 2, 907 13, 842 49, 210 2, 217 10, 557 59. 769 1. 774 8. 448 68. 215 1. 514 7. 215 75. 430 Note: Extraction: Principal component analysis Principal component analysis was used for extracting factors. Among the twenty one factors six factors were retained depending on component matrix, Eigen values and Communalities. Eigen value represents the total variance explained by each factor. From the Table 14, it could be inferred that the six statements extracted from the 21 statements are explaining more than 75 per cent of the variance in the 21 services related variables. Table 15. Communalities Statements Well informed progress of action on complaint Bills are received in time Billing system accurate and error free Queries taken seriously Quick complaint resolving Friendly and politeness of staff Adequate knowledge of staff to handle gueries Retailer location (distance to get cash voucher) Materials associated with service (e. g. pamphlets') are visually located Easy payment for post paid services Simple application formalities Provides sufficient geographic coverage Clear and undisturbed voice Able to make calls at peak

hours STD / ISD call rate Free local SMS Booster packs/ call cutter cards Pricing structure / scheme Discounts and offers via SMS Value added services Promotion and offers Note: Extraction method: Principal component Analysis VOLUME NO. 1, ISSUE NO. 11 19 ISSN 2277-1166 Communalities 0. 713 0. 784 0. 738 0. 748 0. 661 0. 745 0. 784 0. 758 0. 731 0. 730 0. 655 0. 826 0. 717 0. 699 0. 835 0. 787 0. 797 0. 847 0. 820 0. 541 0. 859 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com The extraction communalities are given in the table 15. Small values (< 0.5) indicate variables that do not fit well in the factor solution and should possibly be dropped from the analysis. In order to reduce the number of factors and enhance interpretability, the factors are rotated. The rotation increases the quality of interpretation of the factors. There are several methods of the initial factor matrix to attain simple structure of the data. The varimax rotation is one such method to attain better result for interpretation and it was employed and the results are given in Table 15, Among the total twenty one statements included promotion and offers, pricing structure and scheme, STD / ISD rate, geographic coverage, Discounts and offers via SMS, booster packs/ call cutter cards was accounted in the 21 factors among twenty eight based on the component matrix value and communalities. Thus the factor analysis condensed and simplified the 21 statements into six statements with 75. 430 percent of the variability of all the 6 statements. The six factors identified as most important are: Promotion and offers Pricing structure and scheme STD / ISD rate, Geographic coverage Discounts and offers via SMS Booster packs/ call cutter cards From the factor analysis it could be inferred that the six factors influence switching behavior

of the respondents. Table 16. Problems faced by the respondents in MNP S. No Problems 1. 2. Yes No If Yes, Difficulty in understanding the procedure Time consuming Sub total Total No of respondents 35 65 19 16 35 100 % to total 35. 00 65. 00 19. 00 16. 00 35. 00 100. 00 From above table it could be concluded that majority of the respondents were not facing problem with MNP. Nearly 35 per cent of the respondents facing problems with MNP. In that, nearly 19 per cent of the respondents stated that difficulty in understanding the procedure as the major problem in MNP followed by time consuming (16 per cent). The case firm should concentrate more on these aspects to switch over the customers. VOLUME NO. 1, ISSUE NO. 11 20 ISSN 2277-1166 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com Table 17. Satisfaction about the MNP among the respondents S. No 1 2 3 4 5 Satisfaction Highly satisfied satisfied Neutral dissatisfied highly dissatisfied Total No of respondents 26 72 2 0 0 100 % to total 26. 00 72. 00 2. 00 0. 00 0. 00 100. 00 Most the respondents were satisfied with the Mobile number portability. About 26 percent of the respondents were highly satisfied with the MNP service. Hence efforts must be taken to improve the MNP service. CONCLUSION AND RECOMMENDATIONS Most of the sample respondents were young age and low income category. To attract the low income and high income group of people, the case firm should provide more schemes and offers as provided by its competitors to increase the Mobile number portability respondents. Considerable share of the respondents were aware of MNP through Advertisement, friends and relatives, so the case firm should provide promotions like offers and discounts for the persons who motivate

their relatives and friends to avail MNP. Major share of the respondents stated that poor coverage and no promotion and offers as their major problem in their past service. The case firm should concentrate more on sufficient coverage. The sales person also should be trained to communicate the promotions effectively to non-customers in a friendly manner and not as product pusher. All case firms should concentrate more on the influencing aspects (ISD call rate, free local SMS, booster packs and call cutter cards) in customer point of view in order to utilize the services more. Considerable share of respondents were faced problems in MNP because of the procedure was so difficult and it was time consuming. Major share of the respondents were satisfied with the service provided by the present service provider. REFERENCES 1. Buehler, S. and Haucap, J. (2004), "Mobile number portability", Journal of Industry, Competition, and Trade, Vol. 4 No. 3, 223-38 2. Gerpott, T. J., Rams, W. and Schindler, A. (2001), "Subscriber retention, loyalty, and satisfaction in the German mobile cellular telecommunications market", Telecommunications Policy, Vol. 25 No. 4, 249-69. 3. Pagani, M, (2004): Determinants of adoption of Third Generation mobile multimedia services, Journal of Interactive Marketing, Vol. 18, No. 3. VOLUME NO. 1, ISSUE NO. 11 21 ISSN 2277-1166 ABHINAV NATIONAL MONTHLY REFEREED JOURNAL OF REASEARCH IN COMMERCE & MANAGEMENT www. abhinavjournal. com 4. Shin, D. (2006), "A study of mobile number portability effects in the United States", Telematics and Informatics, Vol. 24 No. 1, 1-14. 5. Smura (2004), Mobile number portability: Case in Finland, Journal of Arts, Science & Commerce, Vol. II, No. 4, 200-205. 6. Yang, H. T. and Choi, M. K. (2003), "Study on customer retention strategies for the

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