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Analyzing the Customer Switchover Behavior in Mobile Communication

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Abstract: **This research focuses on developing an integrated model to understand and enlist the interrelationship between various aspects for motivating customers to switch their mobile (telecom)connection; categorize them into four clusters based on their driving and dependence powers. In order to achieve this, frame work, based on the inter relationship between the parameters has been developed and these parameters was observed having high interrelationship. The executives involved in mobile networking business could be the beneficiaries of this study as the result from this research will enable them to attract new customers so as to increase their number of connections and also to prevent their existing customers from switching connection. The parameter used in this research is based on the current global telecom scenario so that the result of the research is completely relevant and practically applicable in the contemporary telecom market.**

Keywords: **Telecom, Customer switch over, ISM, MICMAC**

I. INTRODUCTION

The main aim of this research is to understand the motivating factors for customers to switch over the connection, determine their interrelations and find their dependence and driving power. The influx many mobile networking operators have created a significant competition in the Indian telecom network market. The recent policies of the Indian government telecom ministry and the TRAI had effect on the connection switching phenomena within the mobile customer lines. As a growing economy Indian telecom market is of great significance to all the major players in the telecom networking industry. The main aim of these companies is to prevent their existing customers from switching their connections and to attract new customers to avail their connections. A very efficient Management strategy is essential for any telecom networking industry to exist live in the market. There are several parameters affecting these customer's switchovers and there exist definite interrelation ship between these factors. The study about these factors will throw light to the relevance of these parameters, if they influence the other parameter more or if they are more influenced by other parameters. The proper knowledge about this concept will help to alter the managerial strategies so as to increase customer numbers.

II. ISM METHADOLOGY

ISM methodology is a globally accepted method to identify the parameters relevant for the case under study and obtain the interrelationship that exists between them to form a systematically well structured model. The systematic implementation of the ISM method to a business problem with variables related directly and indirectly enables us to achieve a definite relationship structure between them. This technique is accepted globally and have multidisciplinary uses.

III. RESEARCH METHODOLOGY

The main intent of this research is to indentify the relationship between the different parameters driving and dependence capability. The parameters relevant for the current study is identified from the sample set of customers. The data needed for the study are obtained from the customers selected for the study by both formal and informal interview sessions. The sample is composed of individuals of different age categories. The sample had more weight age to individuals from the age group 15-30 which is the major category of potential telecom customer. Taking into account the inputs from the sample and the opinion from the experts 10 relevant parameters were finalized.

1) Identify the variables for the selected study.
2) Establish relations between the elements for the development of pair wise comparison.

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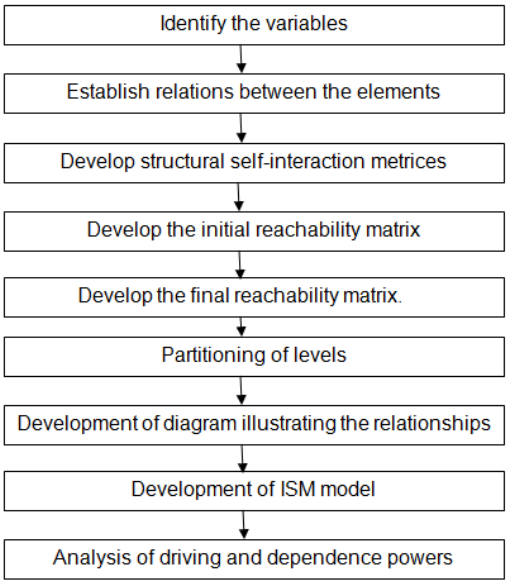
3) Develop structural self-interaction metrices (SSIM) using the pair wise connections.
4) Develop the initial reach ability matrix from the SSIM.
5) Incorporate transitivity to initial reachability matrix to obtain the final reachability matrix.
6) Partition the reachability matrix to different levels.
7) Draw a diagram illustrating the relationships.
8) Replace the numbered nodes with statements so as to obtain the ISM
9) Make necessary alterations in the ISM so as to eradicate inconsistancie

Figure 1 schematic diagram of the study methodology



IV. REASONS FOR THE FREQUENT CHANGE OF CONNECTIONS

1. Better service choices
2. Better connectivity
3. Better offers / additional packages
4. Ease of internet usage (networking)
5. Better security
6. Geographical reasons (locational reasons and urban/rural)
7. Better option in ISD or STD usage
8. Trend to avail extra connection
9. Easy availability of connection
10. Better marketing/advertising

V. SELF STRUCTURED INTERACTION MATRIX

The first stage in the ISM modeling is the development if Self Structured Interaction Matrix (SSIM). The direct relationship is identified between the parameters and the same is tabulated to form the SSIM.

The four standard symbols were used for illustrating the relationships.

V parameter i invigorate to parameter j
A parameter j invigorate to parameter i
X parameter i and j invigorate to achieve other
O parameter i and j are unrelated

Table 1 SSIM Matrix developed based on pair wise relation

		10	9	8	7	6	5	4	3	2	1
1	service choices	v	o	v	a	v	a	a	a	x	1
2	connectivity	v	o	v	x	v	o	o	o	1	
3	offers and addiional packages	v	o	v	o	o	o	o	1		
4	internet usage	v	o	v	o	a	o	1			
5	security	v	o	v	o	o	1				
6	geogaphical reasons	v	o	v	x	1					
7	STD/ISD reasons	v	o	v	1						
8	trend to avail extra connecion	o	o	1							
9	easy availabilty	v	1								
10	better adverdising	1									

VI. DEVELOPMENT OF INTIAL AND FINAL REACHABILITY MATRIX

The initial reach ability matrix is obtained by converting the SSIM into numerical form. The binary elements 1and 0 are assigned suitably according to the relation inorder to obtain the initial reachabilty matrix. The concept of transitivity is further incorporated into the initial reachability matrix so as to obtain the final reachability matrix.

Table 2 Initial reachability matrix

	Parameters	1	2	3	4	5	6	7	8	9	10
1	service choice	1	1	0	0	0	1	0	1	0	1
2	connectivity	1	1	0	0	0	1	1	1	0	1
3	offer and additional packages	1	0	1	0	0	0	0	1	0	1
4	internet usage	1	0	0	1	0	0	0	1	0	1
5	security	1	0	0	0	1	0	0	1	0	1
6	geographical reasons	0	0	0	1	0	1	1	1	0	1
7	STD/ISD	1	1	0	0	0	1	1	1	0	1
8	trend to avail extra connection	0	0	0	0	0	0	0	1	0	0
9	easy availability	0	0	0	0	0	0	0	0	1	1
10	better advertising	0	0	0	0	0	0	0	0	0	0

Table 3 Final reach ability matrix

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	Parameters	1	2	3	4	5	6	7	8	9	10	
1	service choice	1	1	0	1	0	1	1	1	0	1	7
2	connectivity	1	1	0	1	0	1	1	1	0	1	7
3	offer and additional packages	1	1	1	0	0	1	0	1	0	1	6
4	internet usage	1	1	0	1	0	1	0	1	0	1	6
5	security	1	1	0	0	1	1	0	1	0	1	6
6	geographical reasons	1	1	0	1	0	1	1	1	0	1	7
7	STD/ISD	1	1	0	1	0	1	1	1	0	1	7
8	trend to avail extra connection	0	0	0	0	0	0	0	1	0	0	1
9	easy availability	0	0	0	0	0	0	0	0	1	1	2
10	better advertising	0	0	0	0	0	0	0	0	0	1	1
		7	7	1	5	1	7	4	8	1	9	

VII. LEVEL PARTITION

The level partition is done in order to obtain the level or hierarchy of the parameters, successive iteration may be required so as to obtain the order of all the parameters. Here we required three parameters to complete the level partition.

Table 4 Iteration 1

Variable	Reachability Set	Antecedent set	Intersection set	Level
1	1,2,4,6,7,8,10	1,2,3,4,5,6,7	1,2,4,6,7	
2	1,2,4,6,7,8,10	1,2,3,4,5,6,7	1,2,4,6,7	
3	1,2,3,6,8,10	3	3	
4	1,2,4,6,8,10	1,2,4,6,7	1,2,4,6	
5	1,2,5,6,8,10	5	5	
6	1,2,4,6,7,8,10	1,2,3,4,5,6,7	1,2,4,6,7	
7	1,2,4,6,7,8,10	1,2,6,7	1,2,4,6,7	1
8	8	1,2,3,4,5,6,7,8	8	
9	9,10	9	9	
10	10	1,2,3,4,5,6,7,9,10	10	1

Table 5 Iteration 1

Variable	Reach ability Set	Antecedent set	Intersection set	Level
1	1,2,4,6,7	1,2,3,4,5,6,7	1,2,4,6,7	2
2	1,2,4,6,7	1,2,3,4,5,6,7	1,2,4,6,7	2
3	1,2,3,6	3	3	
4	1,2,4,6	1,2,4,6,7	1,2,4,6	2
5	1,2,5,6	5	5	
6	1,2,4,6,7	1,2,3,4,5,6,7	1,2,4,6,7	2
7	1,2,4,6,7	1,2,6,7	1,2,4,6,7	2
9	9	9	9	

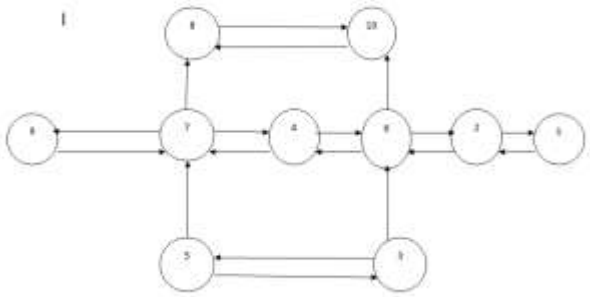
Table 6 Iteration 3

Variable	Reachability Set	Antecedent set	Intersection set	Level
3	3	3	3	3
5	5	5	5	3

VIII. DIAGRAPH AND ISM MODEL FORMULATION

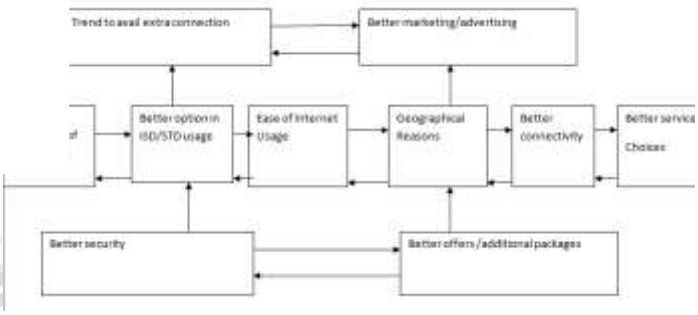
The pictorial based models are developed as per the results from the final reachabilty matrix and the level partitions which is called a diagram it is further converted to an ISM model. The hierarchal categorization of the parameters gave rise to the formation of Diagraph which means Directed Graph. It is shown in Figure 2. Diagraph indicate the relationships between the various parameters.

Figure 2 Diagraph



In order to make the relationships more transparent ISM model is made. ISM model is a revised form of the Diagraph. It is shown in Figure 3.

Figure 3 Interpretive Structural Model of the Parameters



IX. DRIVING POWER DEPENDENCE DIAGRAM

This is a diagram which categorizes the parameters into four clusters.

1. Autonomous
2. Dependent
3. Linkage
4. Independent

Figure 4 Driving power dependence

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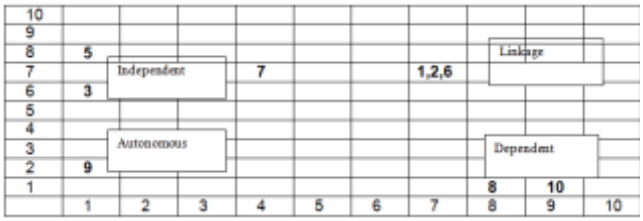

X. RESULTS, DISCUSSION AND CONCLUSIONS

In the ISM, the top most parameters are found out to be 8 and 10, the parameters 1,2,4,6,7,9 comes in the next hierarchial level and the parameters 5 and 3 are at the bottom level. So the mobile network service providers have to concentrate more on improving the parameters 8 and 10 ie; Trend to avail extra connection and Better marketing / Advertising. This study is an ideal guide for service providers for selecting modern strategies to attract new customers and retain the existing customers, following the priority level of parameters as obtained from this study will benefit developing their business.

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