

Chapter 4

Brand loyalty and Brand Switching of the Respondents

4.1 Introduction

This chapter provides data analysis and interpretation relating to Brand Loyalty and Brand switching. Relationship between satisfaction about products and Brand loyalty were established using bi-variate correlation. Influence of demographic variables over satisfaction about the products and Brand loyalty were identified. This section also provides a model for Brand loyalty of the respondents using mobile phones. This chapter proceeds as follows:

Section 4.1: Brand Loyalty

Section 4.2: Brand Switching

Brand loyalty of the respondents was measured through twelve variables. One sample t-test is applied to test the significant difference between the mean responses given by the respondents for the variables measured under Brand loyalty against the test average response of 3 (mean score).

The following null hypothesis is framed:

H₀21 (a): Brand loyalty does not differ significantly

Table 4.1 shows the result of one sample t-test for the mean responses provided by the respondents using mobile phones for Brand loyalty.

Table - 4.1

One sample t-test for Brand loyalty

Statements	Mean	SD	t-value	p-value
Product performance develops brand loyalty	3.53	0.68	17.225**	<.001
Attitude of customers	3.63	0.68	20.482**	<.001
Frequency of purchase	3.65	0.67	21.340**	<.001
Comparing many brand with brand used	3.71	0.68	23.150**	<.001
Requirements from the product	3.79	0.68	25.770**	<.001
Family members co-operation in selecting the brands	3.23	0.68	27.047**	<.001
Cost of the product	3.79	0.68	25.660**	<.001
Reputation of the product	3.82	0.69	26.241**	<.001
Way of marketing by manufacturer	2.52	0.83	9.748**	<.001

New schemes and offers	3.07	1.06	1.469	<.001
Social status in acquiring the brand	3.02	1.45	0.307	<.001
Personality characteristics	2.74	1.66	3.438**	<.001

** Significant at 1% level

From table 4.1, it is evident that t-values of Brand loyalty 17.225, 20.482, 21.340, 23.150, 25.770, 27.047, 25.660, 26.241, 9.748 and 3.438 are significant at 1% level. This shows that there is significant difference between the mean responses given by the respondents towards the Brand loyalty and the test average score (=3). Further the mean values of the variables; Product performance develops brand loyalty (3.53), Attitude of customers (3.63), Frequency of purchase (3.65), Comparing many brand with brand used (3.71), Requirements from the product (3.79), Family members co-operation in selecting the brands (3.23), Cost of the product (3.79) and Reputation of the product (3.82) are above the average level. The mean value of the variables; Way of marketing by manufacturer (2.52) and Personality characteristics (2.74) are below the average level. It is observed that the respondents are having loyalty towards the brand which they are using. Reputation and Cost of the product are the vital factor for Brand loyalty and Requirements from the product, Frequency of purchase and Attitude of customers are considered as important aspects of Brand loyalty.

4.2 Influence of demographic variables on Brand Loyalty

To test the significant influence of demographic variables (age, gender, education, marital status, occupation, monthly income, family type and family size) on Brand Loyalty, independent samples t-test is applied to identify the significant influence of age, gender, marital status and family type on Brand Loyalty. One way ANOVA is applied to identify the significant influence of education, occupation, monthly income and family type on Brand Loyalty.

The following null hypotheses were framed:

H₀ 22: There is no significant influence of respondents' (a) age (b) gender (c) education (d) marital status (e) occupation (f) monthly income (g) family type (h) family size on Brand loyalty

Table 4.2 shows the results of significant influence of demographic variables on Brand Loyalty.

Table - 4.2

Influence of demographic variables on Brand Loyalty

Variable	Category	N	Mean	S D	t/F-value
Age	Up to 35 years	325	39.02	4.17	t=3.041** (p=.006)
	Above 35 years	175	41.18	3.99	
Gender	Male	284	40.22	3.99	t=0.882

	Female	216	39.89	4.24	(p=.378)
Education	Schooling	89	39.85	4.49	F=0.632 (p=.594)
	Graduates	199	39.91	4.39	
	Post graduates	159	40.44	3.35	
	Professionals	53	40.05	4.36	
Marital status	Married	329	39.92	3.85	t=1.186 (p=.236)
	Single	171	40.38	4.54	
Occupation	Student	102	40.59	4.89	F=1.660 (p=.158)
	Salaried	168	40.17	4.25	
	Business	134	39.35	3.44	
	Self -supported	54	40.55	3.44	
	Home maker	42	40.16	3.98	
Monthly income	Below Rs. 15,000	193	39.95	4.21	F=5.614** (p=.001)
	Rs. 15,001 - Rs. 25,000	237	39.94	4.13	
	Rs. 25,001 - Rs. 35,000	40	42.45	3.55	
	Above Rs. 35,000	30	38.86	2.56	
Family type	Joint	295	40.33	3.93	t=1.646

	Nuclear	205	39.72	4.32	(p=.114)
Family size	Up to 3 members	92	39.17	4.58	F=7.269** (p=.001)
	4 & 5 members	228	40.82	4.31	
	Above 5 members	180	39.61	3.38	

** Significant at 1% level

Age

The obtained 't' value is 3.041 and it is significant at 1% level. The value indicates that there is significant influence of age on brand loyalty.

Further, the mean table 4.2 indicates that the respondents in the age group of above 35 years have scored higher mean value of 41.18 and the lowest mean value was scored by the respondents in the age group of up to 35 years (39.02). This shows that the respondents in the age group of more than 35 years are having more brand loyalty and the respondents in the age group of up to 35 years are having less brand loyalty.

Therefore, the formulated hypothesis H_0 22(a) that “there is no significant influence of age on Brand loyalty” is rejected.

Gender

The obtained 't' value is 0.882 and it is not significant at 5% level. The value indicates that there is no significant influence of gender on brand loyalty.

Therefore, the formulated hypothesis H_0 22(b) that “there is no significant influence of gender on brand loyalty” is accepted.

Education

The obtained 'F' value is 0.632 and it is significant at 5% level. The value indicates that there is significant influence of education on brand loyalty.

Therefore, the formulated hypothesis H_0 22(c) that “there is no significant influence of education on brand loyalty” is accepted.

Marital status

The obtained 't' value is 1.186 and it is not significant at 5% level. The value indicates that there is no significant influence of marital status on brand loyalty.

Therefore, the formulated hypothesis H_0 22(d) that “there is no significant influence of marital status on brand loyalty” is accepted.

Occupation

The obtained 'F' value is 1.660 and it is not significant at 5% level. The value indicates that there is no significant influence of occupation on brand loyalty.

Therefore, the formulated hypothesis H_0 22(e) that “there is no significant influence of occupation on brand loyalty” is accepted.

Monthly income

The obtained 'F' value is 5.614 and it is significant at 5% level. The value indicates that there is significant influence of monthly income on brand loyalty.

Further, the mean table 4.2 indicates that the respondents earning Rs.25,001 - Rs.35,000 as their monthly income have scored higher mean value of 42.45 and the lowest mean value was scored by the respondents earning more than Rs.35,000 (38.86). This shows that the respondents earning Rs.25,001-Rs.35,000 are having more brand loyalty towards brand and the respondents earning above Rs.35,000 are having less brand loyalty.

Therefore, the formulated hypothesis H_0 22(f) that “there is no significant influence of monthly income on brand loyalty” is rejected.

Family type

The obtained 't' value is 1.646 and it is not significant at 5% level. The value indicates that there is no significant influence of family type on brand loyalty.

Therefore, the formulated hypothesis H_0 22(g) that “there is no significant influence of family type on brand loyalty” is accepted.

Family size

The obtained 'F' value is 7.269 and it is significant at 1% level. The value indicates that there is significant influence of family size on brand loyalty.

Further, the mean table 4.2 indicates that the respondents living in family of size 4 and 5 members have scored higher mean value of 40.82 and the lowest mean value was scored by the respondents living in family of size up to 3 members (39.17). This shows that the respondents living in family of size 4 and 5 members are more loyal to the brand and the respondents living in the family of size up to 3 members are having less loyalty towards brand.

Therefore, the formulated hypothesis H_0 22(h) that “there is no significant influence of family size on brand loyalty” is rejected.

4.3 Relationship between Satisfaction about product and Brand Loyalty

To test the significant relationship between Satisfaction about product and Brand Loyalty, bi-variate correlation is applied to ascertain the relationship.

The following null hypotheses were framed:

H_0 23(a): There is no significant relationship between Satisfaction about product and Brand Loyalty

Table - 4.3

Relationship between Satisfaction about product and Brand Loyalty

	Brand Loyalty
Satisfaction about product	$r = 0.503^{**}$
	$p < .001$

** Significant at 1% level

Positive significant correlation is observed between Satisfaction about product and Brand Loyalty ($r = 0.503$). Hence, the null hypothesis “There is no significant relationship between Satisfaction about product and Brand Loyalty” is rejected at 1% level. This shows that satisfaction about product brings Brand Loyalty by 50.3%.

4.4. Model for Brand loyalty

Structural equation modeling (SEM) is a statistical technique for testing and estimating causal relations using a combination of statistical data and qualitative causal assumptions. This definition of SEM was articulated by the geneticist Sewall Wright (1921), the economist **Trygve Haavelmo (1943)** and the cognitive scientist Herbert Simon (1953), and formally defined by Judea Pearl (2000) using a calculus of counterfactuals.

SEM allows both confirmatory and exploratory modeling, meaning they are suited to both theory testing and theory development. Confirmatory modeling

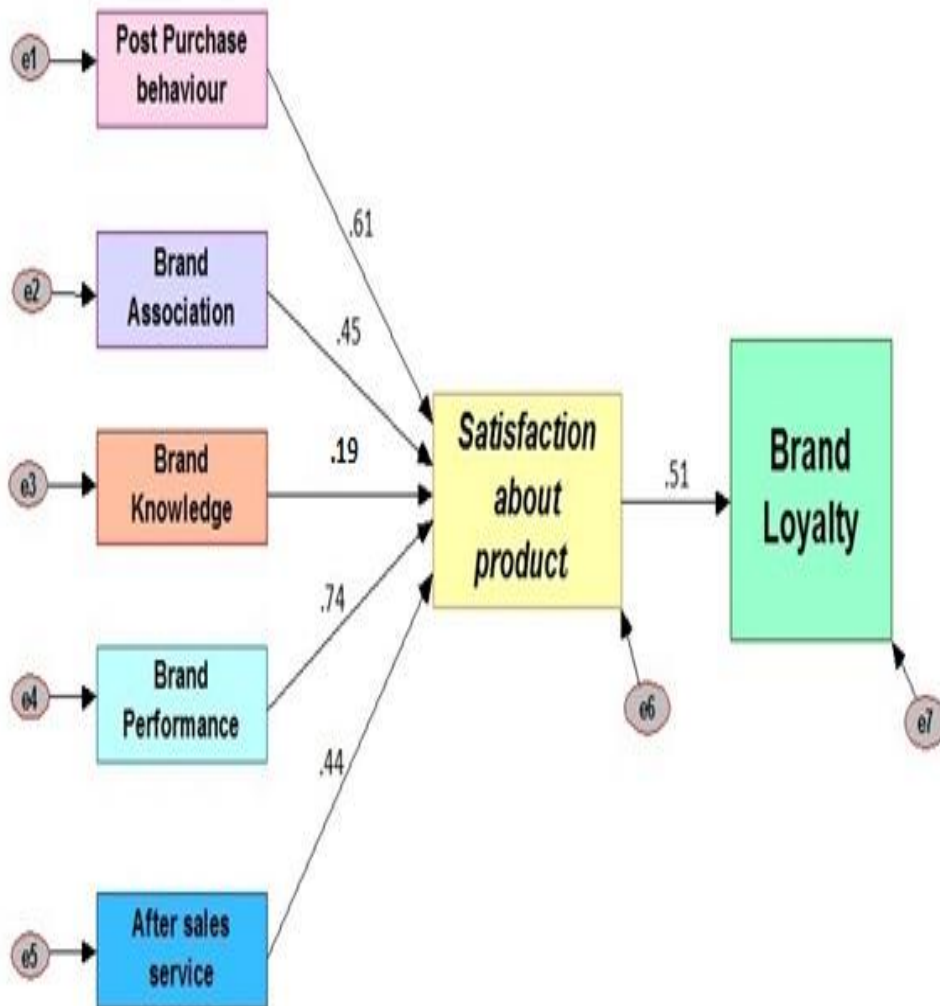
usually starts out with a hypothesis that gets represented in a causal model. The concepts used in the model must then be operationalized to allow testing of the relationships between the concepts in the model. The model is tested against the obtained measurement data to determine how well the model fits the data. The causal assumptions embedded in the model often have falsifiable implications which can be tested against the data.

With an initial theory SEM can be used inductively by specifying a corresponding model and using data to estimate the values of free parameters. Often the initial hypothesis requires adjustment in light of model evidence. When SEM is used purely for exploration, this is usually in the context of exploratory factor analysis as in psychometric design.

A model was developed by using analysis of moment structure (AMOS 16.1). A model is fit to ensure the Brand loyalty of mobile users in Chennai. In this model Post Purchase behaviour, Brand Association, Brand Knowledge, Brand Performance, after sales service, Satisfaction about product and Brand loyalty are taken as observed variables (measured through variables). e_1 , e_2 , e_3 , e_4 , e_5 , e_6 and e_7 are error terms (residuals) for observed variables.

Null Hypothesis H_0 24: The model fitted for Brand loyalty of respondents using mobile in Chennai is good.

Figure: 4.1. Model for Brand loyalty



4.5. Model fit Summary

The model fit Chi-square $\chi^2 = 3.025$ and the model's p-value is 0.129 which is insignificant at 5% level, which shows that the null hypothesis "The model fitted for Brand loyalty of respondents using mobile in Chennai is good" is accepted. The goodness of fit index (GFI) is 0.926 of the model shows good fit and its adjusted goodness of fit (AGFI) is 0.915. The Root Mean Square Error of Approximation (RMSEA) is 0.084, a smaller value indicates better model and Expected Cross Validation Index (ECVI) is 0.089 are within the acceptable range indicating a better model fit.

4.6 BRAND SWITCHING

4.6.1 Changed the brand of the handset in recent times

Respondents using Mobile phones in Chennai were selected for the study. Respondents have provided the information about the changing the brand of mobile phones in recent times. Table 4.4 shows the details about the shifting the brand of the mobile phones recently.

Table - 4.4

Changed the brand of the mobile phones in recent times

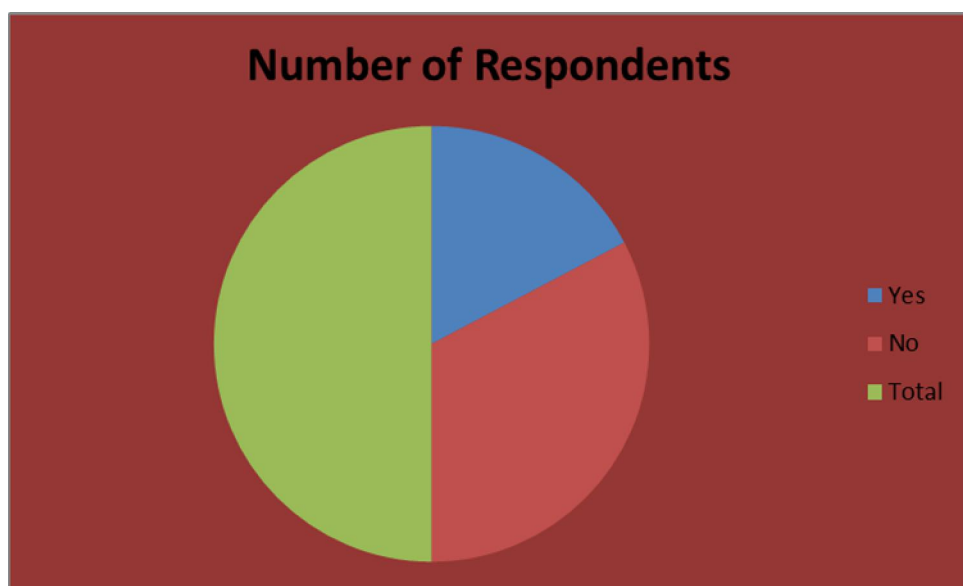
	Number of Respondents	Percentage
Yes	173	34.6
No	327	65.4
Total	500	100

Source: Primary data

Table 4.4 reveals the details about the change of mobile phone in recent times. 34.6 percent of the respondents expressed that they changed their mobile phone and 65.4 percent of the respondents expressed that they have not changed their mobile phone in recent times.

Chart - 4.4.

Changed the brand of the mobile phones in recent times



4.6.2 Reasons for changing the brand of Mobile

Respondents using Mobile phones in Chennai were selected for the study. Respondents have recorded the reasons for changing the brand of mobile phones. Table 4.5 shows the details of reasons provided by the respondents for changing the mobile brand.

Table - 4.5

Reasons for changing the brand of Mobile

	Yes		No		Total	
	N	%	N	%	N	%
Quality	88	50.9	85	49.1	173	100
Cost of the product	19	11.0	154	89.0	173	100
Advertisement	28	16.2	145	83.8	173	100
Influence of friends/relatives	46	26.6	127	73.4	173	100
Simply changing the brand	107	61.8	66	38.2	173	100
Sales offers	106	61.3	67	38.7	173	100
Advanced Technology	106	61.3	67	38.7	173	100
Inconvenience	34	19.7	139	80.3	173	100
Service failure	28	16.2	145	83.8	173	100

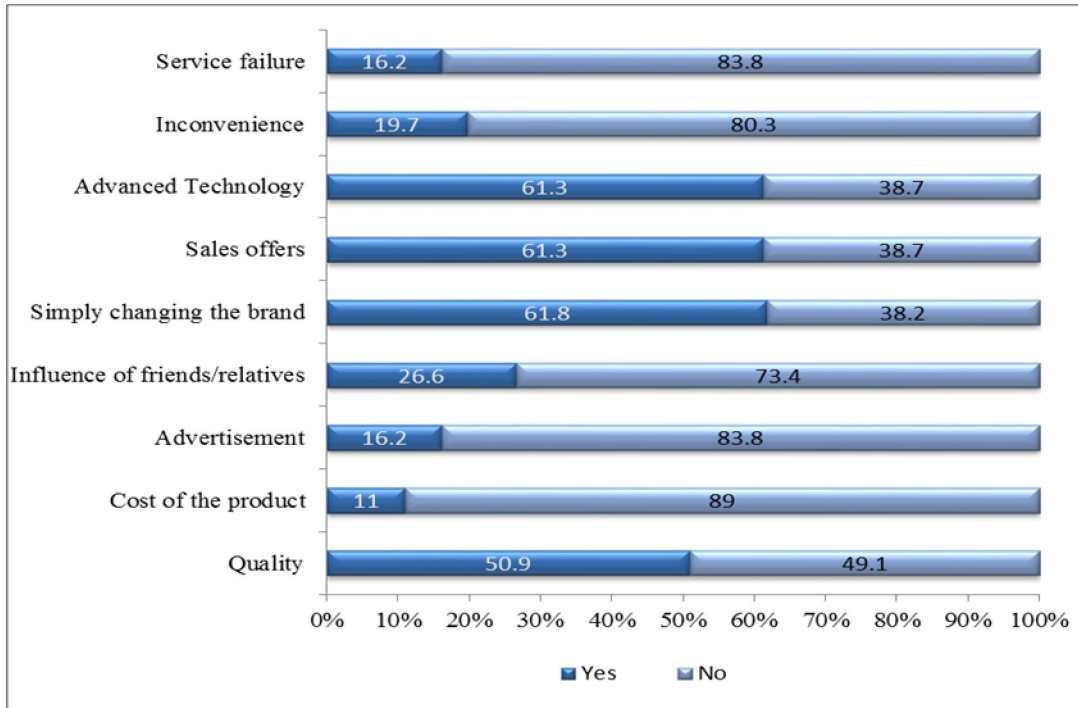
Source: Primary data

Table 4.5 gives the reason for changing the brand of mobile. 50.9 percent of the respondents agreed that they have changed the mobile because of quality. 11.0 percent of the respondents have changed the mobile due to cost of the

product, 16.2 percent of the respondents accepted that they have changed the mobile due to the impact of advertisements, 26.6 percent of the respondents agreed that they have changed the mobile because of the influence made by their friends/relatives, 61.8 percent of the respondents agreed that they have simply changed the brand and there is no specific reason for changing the brand of the handset. 61.3 percent of the respondents accepted that they have changed the mobile because of offers given in sales. 61.3 percent of the respondents agreed that they have changed the mobile due to advancement in technology. 19.7 percent of the respondents accepted that they have changed the mobile due to the inconvenience caused by the mobile. 16.2 percent of the respondents stated that they have changed the mobile due to failure in service.

Chart - 4.5

Reasons for changing the brand of Mobile



4.6.3 Association between age and changed the handset

To assess the association between age and changed the handset, Chi-square test is performed to identify the association between age and changed the handset. The cross tabulation between age and changed the handset is presented in the table 4.6.

Null hypothesis H₀ 25(a): There is no significant association between age and changed the handset.

Table - 4.6

Association between age and changed the handset

			Age		Total	Chi square value
			Up to 35 years	Above 35 years		
Changed the handset	Yes	N	122	51	173	6.982** (p =.007)
		%	70.5%	29.5%	100.0%	
	No	N	203	124	327	
		%	62.1%	37.9%	100.0%	
Total		N	325	175	500	
		%	65.0%	35.0%	100.0%	

** Significant at 1% level

From the table 4.6, it is observed that there is significant association between age and changed the handset. Chi- square value (6.982) shows that the null hypothesis is rejected at 1% level. Hence, it is concluded from the analysis that age and changed the handset are well associated. From the table 4.6, it is evident that most of the respondents (70.5%) in the age group of up to 35 years have changed their handsets in recent times.

4.6.4 Association between age and quality

To assess the association between age and quality as reason for changing the handset, Chi-square test is performed to identify the association between age

and quality as reason for changing the handset. The cross tabulation between age and quality as reason for changing the handset is presented in the table 4.39.

Null hypothesis H₀ 25(b): There is no significant association between age and quality as reason for changing the handset

Table - 4.7
Association between age and quality

			Age		Total	Chi square value
			Upto 35 years	Above 35 years		
Quality	Yes	N	59	29	88	1.040 (p =.308)
		%	67.0%	33.0%	100.0%	
	No	N	63	22	85	
		%	74.1%	25.9%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

From the table 4.7 it is observed that there is no significant association between age and quality as, reason for changing the handset. Chi- square value (1.040) shows that the null hypothesis is accepted at 5% level. Hence,

it is concluded from the analysis that age and quality as reason for changing the handset are not associated.

4.6.5 Association between age and cost of the product as the reason for changing the handset

To assess the association between age and cost of the product as the reason for changing the handset, Chi-square test is performed to identify the association between age and cost of the product as the reason for changing the handset. The cross tabulation between age and cost of the product as the reason for changing the handset is presented in the table 4.8.

Null hypothesis H_0 25(c): There is no significant association between age and cost of the product as the reason for changing the handset.

Table - 4.8

Association between age and cost of the product as the reason for changing the handset

			Age		Total	Chi square value
			Up to 35 years	Above 35 years		
Cost of the product	Yes	N	14	5	19	0.103 (p =0.749)
		%	73.7%	26.3%	100.0%	
	No	N	108	46	154	
		%	70.1%	29.9%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

From the table 4.8, it is observed that there is no significant association between age and cost of the product as the reason for changing the handset. Chi- square value (0.103) shows that the null hypothesis is accepted at 5% level. Hence, it is concluded from the analysis that age and cost of the product as the reason for changing the handset are not associated.

4.6.6 Association between age and Advertisement as the reason for changing the handset

To assess the association between age and Advertisement as the reason for changing the handset, Chi-square test is performed to identify the association between age and Advertisement as the reason for changing the handset. The cross tabulation between age and Advertisement as the reason for changing the handset is presented in the table 4.9.

Null hypothesis H_0 25(d): There is no significant association between age and Advertisement as the reason for changing the handset

Table - 4.9

Association between age and Advertisement as the reason for changing the handset

			Age		Total	Chi square value
			Upto 35 years	Above 35 years		
Advertisement	Yes	N	19	9	28	1.296 (p =0.352)
		%	67.9%	32.1%	100.0%	
	No	N	103	42	145	
		%	71.0%	29.0%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

From the table 4.9, it is observed that there is no significant association between age and Advertisement as the reason for changing the handset. Chi-square value (1.296) shows that the null hypothesis is accepted at 5% level. Hence, it is concluded from the analysis that age and Advertisement as the reason for changing the handset are not associated.

4.6.7 Association between age and influence of friends/relatives as the reason for changing the handset

To assess the association between age and influence of friends/relatives as the reason for changing the handset, Chi-square test is performed to identify the association between age and influence of friends/relatives as the reason for changing the handset. The cross tabulation between age and influence of friends/relatives as the reason for changing the handset is presented in the table 4.9.

Null hypothesis H_0 25(e): There is no significant association between age and influence of friends/relatives as the reason for changing the handset

Table - 4.10

Association between age and influence of friends/relatives as the reason for changing the handset

			Age		Total	Chi square value
			Upto 35 years	Above 35 years		
Influence of friends/relatives	Yes	N	40	6	46	8.143** (p =.004)
		%	87.0%	13.0%	100.0%	
	No	N	82	45	127	
		%	64.6%	35.4%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

** Significant at 1% level

From the table 4.9, it is observed that there is significant association between age and influence of friends/relatives as the reason for changing the handset. Chi- square value (8.143) shows that the null hypothesis is rejected at 1% level. Hence, it is concluded from the analysis that age and influence of friends/relatives as the reason for changing the handset are well associated. From the table 4.9, it is evident that most of the respondents (87.0%) in the age group of up to 35 years accepted that influence of friends/relatives is the reason for changing the handset.

4.6.8 Association between age and simply changing the brand as the reason for changing the handset

To assess the association between age and simply changing the brand as the reason for changing the handset, Chi-square test is performed to identify the association between age and simply changing the brand as the reason for changing the handset. The cross tabulation between age and simply changing the brand as the reason for changing the handset is presented in the table 4.10.

Null hypothesis H₀ 25(f): There is no significant association between age and simply changing the brand as the reason for changing the handset.

Table- 4.11

Association between age and simply changing the brand as the reason for changing the handset

			Age		Total	Chi square value
			Up to 35 years	Above 35 years		
Simply changing in the brand	Yes	N	76	31	107	0.035 (p =.852)
		%	71.0%	29.0%	100.0%	
	No	N	46	20	66	
		%	69.7%	30.3%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

From the table 4.10, it is observed that there is no significant association between age and simply changing the brand as the reason for changing the handset. Chi- square value (0.035) shows that the null hypothesis is accepted at 5% level. Hence, it is concluded from the analysis that age and simply changing the brand as the reason for changing the handset are not associated.

4.6.9 Association between age and sales offers as the reason for changing the handset

To assess the association between age and sales offers as the reason for changing the handset, Chi-square test is performed to identify the association between age and sales offers as the reason for changing the handset. The cross tabulation between age and sales offers as the reason for changing the handset is presented in the table 4.11.

Null hypothesis H_0 25(g): There is no significant association between age and sales offers as the reason for changing the handset.

Table - 4.12

Association between age and sales offers as the reason for changing the handset

			Age		Total	Chi square value
			Up to 35 years	Above 35 years		
Sales offers	Yes	N	73	33	106	0.359 (p =.549)
		%	68.9%	31.1%	100.0%	
	No	N	49	18	67	
		%	73.1%	26.9%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

From the table 4.11, it is observed that there is no significant association between age and sales offers as the reason for changing the handset. Chi-square value (0.359) shows that the null hypothesis is accepted at 5% level. Hence, it is concluded from the analysis that age and sales offers as the reason for changing the handset are not associated.

4.6.10 Association between age and advanced technology as the reason for changing the handset

To assess the association between age and advanced technology as the reason for changing the handset, Chi-square test is performed to identify the association between age and advanced technology as the reason for changing the handset. The cross tabulation between age and advanced technology as the reason for changing the handset is presented in the table 4.12.

Null hypothesis H₀ 25(h): There is no significant association between age and advanced technology as the reason for changing the handset

Table - 4.13

Association between age and advanced technology as the reason for changing the handset

			Age		Total	Chi square value
			Up to 35 years	Above 35 years		
Advanced Technology	Yes	N	77	29	106	8.592** (p <.001)
		%	72.6%	27.4%	100.0%	
	No	N	45	22	67	
		%	67.2%	32.8%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

** Significant at 1% level

From the table 4.12, it is observed that there is significant association between age and advanced technology as the reason for changing the handset. Chi-square value (8.592) shows that the null hypothesis is rejected at 1% level. Hence it is concluded from the analysis that age and advanced technology as the reason for changing the handset are well associated. From the table 4.12, it is evident that most of the respondents (72.6%) in the age group of up to 35 years agreed that advanced technology is the reason for changing the handset.

4.6.11 Association between age and inconvenience as the reason for changing the handset

To assess the association between age and inconvenience as the reason for changing the handset, Chi-square test is performed to identify the association between age and inconvenience as the reason for changing the handset. The cross tabulation between age and inconvenience as the reason for changing the handset is presented in the table 4.13.

Null hypothesis H_0 25(i): There is no significant association between age and inconvenience as the reason for changing the handset.

Table - 4.14

Association between age and inconvenience as the reason for changing the handset

			Age		Total	Chi square value
			Up to 35 years	Above 35 years		
Inconvenience	Yes	N	29	5	34	4.443* (p =.035)
		%	85.3%	14.7%	100.0%	
	No	N	93	46	139	
		%	66.9%	33.1%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

* Significant at 5% level

From the table 4.13, it is observed that there is significant association between age and inconvenience as the reason for changing the handset. Chi- square value (4.443) shows that the null hypothesis is rejected at 5% level. Hence, it is concluded from the analysis that age and inconvenience as the reason for changing the handset are well associated. From the table 4.13, it is evident that most of the respondents (85.3%) in the age group of up to 35 years accepted that inconvenience is the reason for changing the handset.

4.6.12 Association between age and service failure as the reason for changing the handset

To assess the association between age and service failure as the reason for changing the handset, Chi-square test is performed to identify the association between age and service failure as the reason for changing the handset. The cross tabulation between age and service failure as the reason for changing the handset is presented in the table 4.14.

Null hypothesis H₀ 25(j): There is no significant association between age and service failure as the reason for changing the handset.

Table - 4.15

Association between age and service failure as the reason for changing the handset

			Age		Total	Chi square value
			Upto 35 years	Above 35 years		
Service failure	Yes	N	22	6	28	7.042** (p<.001)
		%	78.6%	21.4%	100.0%	
	No	N	100	45	145	
		%	69.0%	31.0%	100.0%	
Total		N	122	51	173	
		%	70.5%	29.5%	100.0%	

** Significant at 1% level

From the table 4.14, it is observed that there is significant association between age and service failure as the reason for changing the handset. Chi-square value (7.042) shows that the null hypothesis is rejected at 1% level. Hence, it is concluded from the analysis that age and service failure are well associated. From the table 4.14, it is evident that most of the respondents (78.6%) in the age group of up to 35 years agreed that service failure is the reason for changing the handset charges.

To conclude, in this chapter, an attempt has been made by the researcher to examine the brand loyalty and brand switching behavior of the consumers. The summary and findings of every chapter is given in the next chapter.