CHAPTER 6  
INTERPRETATION AND DISCUSSION OF RESULTS

6.1 PREVIEW OF INTERPRETATION AND DISCUSSION OF RESULTS CHAPTER

This chapter of interpretation and discussion of results is the next step following from the data analysis and findings in the previous chapter. In this chapter, the results are interpreted in the light of past research findings, in terms of whether the current results are in line with past research or are in contrast to past research.

6.2 INTERPRETATION AND DISCUSSION-DESCRIPTIVE DATA ANALYSIS

6.2.1 Descriptive Statistics - Service quality

1. The summary of findings of descriptive statistics for Service Quality (SQ) dimensions and Overall Service Quality (OSQ) indicates that the Indian cellular mobile service industry has mean ratings (vis a vis desired expectations) of 6.31 on Overall customer satisfaction (OSQ). **This means that while the Indian cellular mobile service industry has above average perceived performance ratings (vis a vis desired expectations) on Overall Service Quality (OSQ), the mean scores (averages) are far below the excellence level of 9.**

The findings can be interpreted in the light of the fact that in studies conducted by Seth, Momaya, Gupta (2005), most customers were dissatisfied. **The present research findings in this thesis study is in line with Seth, Momaya and Gupta’s (2005) study,** as in this thesis study also, we can interpret that customers are not completely satisfied and the industry has a long way to go since ratings of > 6 on perceived performance on Overall
Service Quality (OSQ), though in isolation seems above average, is far below ideal level of 9.

2. The Indian Cellular mobile service industry seems to be scoring better on certain Service Quality (SQ) dimensions where ratings are better (>6 ratings), such as Convenience (Conv mean=6.40), Tangibles (Tang mean=6.34), Reliability (Relb mean=6.22), Assurance (Ass mean=6.13), Value Added Services (VAS mean=6.01) while the industry has lower ratings (<6 ratings) for Service Quality (SQ) dimensions such as Complaint Handling (CH mean 5.55), Empathy (Emp mean=5.73), Responsiveness (Resp mean= 5.87), Network Quality (NQ mean=5.92) and Price Competitiveness (PC mean =5.98).

Consistent with findings by Rahman (2006) in his Delhi, India study with 1006 respondents, this thesis study also finds that Indian cellular industry has high ratings on Tangibles and low ratings on Empathy.

3. The importance of Service Quality dimensions shows Network Quality, Price Competitiveness, Reliability and Complaint Handling as the most important dimensions to the customers, in that order. In 2nd tier - Responsiveness, Convenience and Value added services while in 3rd tier – Assurance, Tangibles and Empathy in that order are important.

Comparing the means of the importance ratings, we also see that the Network Quality is much more important than price competitiveness. This is in line with Woo and Fock’s (1999) study in Hong Kong finding that the role of pricing in determining users' satisfaction is less important than transmission and network quality, in even such a highly technology-driven industry.

4. The Service quality ratings when compared with importance that customers give to Service Quality dimensions, leads to interpretation that the cellular mobile service industry is getting better ratings (>6) on dimensions that are less important to customers (lower in importance
ranking) e.g. Convenience and Tangibles, while the industry is getting lesser perceived performance ratings (<6) on factors most important to customers like Network Quality (Rank 1), Price competitiveness (Rank 2) and Complaint handling (Rank 4). The only exception to the rule is Reliability (Rank 3) where the perceived performance rating is also high (>6).

6.2.2 Descriptive statistics -Behavioral intentions

5. Descriptive statistics of behavioral dimensions, reveals, that the Repurchase Intentions score (RI mean=4.55) and Word of Mouth score (WOM mean=4.40) though above average (>4), is way below the maximum score of 7.

Price Increase Tolerance (PIT) is even lower (mean of PIT = 3.67), indicating price sensitivity among Indian cellular mobile service customers. The response to complaints shows that while customers of cellular mobile services use the Internal Response to Complaints (IRC) mechanism (complaints to company/service provider), fairly effectively (as mean of IRC = 5.40), their External Response to Complaints (ERC) is also high (mean of ERC = 4.36) and far from ideal score of 1.

From the above, we interpret that the Repurchase Intentions (RI) and Word of Mouth (WOM) is above average but far below ideal. Price Increase Tolerance (PIT) is closer to average indicating that price sensitivity is high. The industry has succeeded in making customers use the Internal Response mechanism for Complaints (IRC) fairly effectively though far from ideal, but External Response to Complaints (ERC) is also high which is a cause of concern.

6.2.3 Descriptive statistics –Switching costs

6. The analysis of Switching Costs, indicates that the Indian Cellular Mobile Service customers have above average Switching Costs (Overall Switching Costs mean = 5.47 on scale of 1 to 9) and face a number of switching barriers.
While number portability concerns are the biggest switching barrier – there are other switching barriers as well - convenience/comfort of remaining with current service provider, perceived sameness of offerings, time and effort in gathering information, fear of new operator’s service not working, difficult formalities /process, financial cost of switching.

The smaller switching barriers are learning, indifference, comfort with employees, difficulty in analyzing information (confusion).

Hence, we interpret that other switching barriers will continue to exert influence on the Indian cellular mobile service industry, even though number portability (biggest switching barrier) is no longer a concern, as number portability is now allowed (from November 2010).

There is no earlier Indian study on switching costs. Like Gyzybowski’s (2008) study, this current thesis study also found that customers face significant switching costs.

Turnbill, Leek Ying’s (2000) UK study, shows than 56% of customers felt service operators use same technology and 46.1% agreed that network operators provider similar service. This can be interpreted as being in line with this current thesis research where the mean of sameness of offering (lack of differentiation) is found to be 5.80 on a scale of 1 to 9.

6.3 INTERPRETATION AND DISCUSSION OF CORRELATIONS

6.3.1 Correlations between each pair of Service Quality (SQ) dimensions

Before hypothesis testing, Pearson correlation analysis was done between pairs of Service Quality (SQ) dimensions. From the summary of findings, it is clear that while each of the ten Service Quality (SQ) dimensions are positively correlated to each other, they are proven to be different and distinct constructs
(as correlations of each pair of Service Quality dimensions is <0.85 (Campbell and Fiske,1959).

Hence we interpret that each of the ten Service Quality dimensions of Network Quality, Reliability, Responsiveness, Empathy, Assurance, Tangibles, Complaint Handling, Value added services, Convenience, Price Competitiveness are distinct and different dimensions.

6.3.2 Correlations between each Service Quality (SQ) dimension and Overall Service Quality (OSQ)

8. We also find through Pearson correlation that, there is positive association between perceived performance ratings of each of the ten Service Quality (SQ) dimensions, on one hand and ratings of Overall Service Quality (OSQ) on the other. The correlations between each of the Service Quality dimensions and Overall Service Quality(OSQ), are in the range of .495 and .601 indicating average to above average correlation.

Hence, we interpret, that the ten Service Quality (SQ) dimensions of Network Quality, Reliability, Responsiveness, Empathy, Assurance, Tangibles, Complaint Handling, Value added services, Convenience, Price competitiveness are each not just distinct, and also important dimensions in evaluating Service Quality of Cellular Mobile Services.

6.3.3 Correlations between each pair of Behavioral Intentions Dimensions

9. Analysis of correlations between each pair of the five behavioral dimensions, shows that highest correlation is between Repurchase Intentions (RI) and Word of Mouth (WOM) (R =.606) and it is positive followed by correlation between Repurchase Intentions (RI) and Price Increase Tolerance (PIT) (R = .366).

This leads to interpretation that customers who have high Repurchase Intentions (RI), also exhibit higher Word of Mouth (WOM) and have
high Price Increase Tolerance (PIT), though extent of positive association
between Repurchase Intentions (RI) and Word of Mouth (WOM) is very high compared to the positive association between Repurchase intentions (RI) and Price Increase Tolerance (PIT) which is very low.
Looking at Word of Mouth (WOM) and Price Increase Tolerance (PIT), we see positive correlation ($R = 0.239$) which is quite low, leading to interpretation, that, higher the Word of Mouth (WOM), higher is the Price Increase Tolerance (PIT), though not to a great extent. This indicates that customers may indulge in positive Word of Mouth but does not mean their Price Increase Tolerance (PIT) is high. This indicates that there is price sensitivity among Indian Cellular Mobile Service customers.

Looking at negative correlations between Repurchase Intentions (RI) and External Response to Complaints (ERC) ($R=0.121$) and positive correlation between Repurchase Intentions (RI) and Internal Response to Complaints (IRC) ($R = 0.107$), though very small, we can interpret that higher the Repurchase Intentions (RI) of customers, higher is the use of Internal Response to Complaints (IRC) by customers and lesser is the use of External Response to Complaints (ERC). Similarly, higher the use of Internal response to complaints (IRC) and Lower the use of External response to complaints (ERC), higher is the Repurchase Intentions (RI).

The positive correlation, between External Response to Complaints (ERC) and Internal Response to Complaints (IRC) ($R = 0.249$) can be interpreted as some customers who use Internal Response to Complaints (IRC) also use External Response to Complaints (ERC) simultaneously.

6.3.4 Correlations between each Behavioral Intentions dimension and Overall Service Quality (OSQ)
10. Correlations between Overall Service Quality (OSQ) and Word of Mouth (WOM) is positive but neither high nor low, as it is close to midpoint (R = 0.471).

Correlation between Overall Service Quality (OSQ) and Repurchase Intentions (RI) is also positive and close to midpoint (R = 0.440)

Thus we see that Overall Service Quality (OSQ) influences Word of Mouth (WOM) to a slightly greater extent than it influences Repurchase Intentions (RI).

The relationship of Overall Service Quality (OSQ) with Price Increase Tolerance (PIT) (R=0.184) is smaller, leading to interpretation that customers perceived performance ratings on Overall Service Quality (OSQ), exerts influence to a smaller extent on their Price Increase Tolerance (PIT). This indicates that even when the ratings are high on Overall Service Quality (OSQ), Price Increase Tolerance (PIT) is not very high, again indicating price sensitivity among Indian Cellular Mobile Service customers.

The relationship of Overall Service Quality (OSQ) with the Internal and External Response to Complaints shows that Overall Service Quality (OSQ) results in greater Internal Response to Complaints (IRC) than External Response to Complaints (ERC) though the difference is not very large.

6.3.5 Correlations between each Service Quality dimension and each Behavioral Intentions dimension

11. The correlations between each of the Service Quality dimensions and Word of Mouth range from .257 to .457, between each of the Service Quality dimensions and Repurchase Intentions range from .259 to .426, indicating low to medium correlations. The correlations between each of the Service quality dimensions and the other three Behavioral Intentions dimensions of Price Increase Tolerance, External Response to Complaints and Internal Response to Complaints is very low.
6.4 HYPOTHESIS TESTING

6.4.1 Hypothesis Testing - Ten Service Quality (SQ) dimensions and Overall Service Quality (OSQ)

12. The Service quality (SQ) dimensions significantly contribute to explain the variance in Overall Service Quality (OSQ) ($R^2 = 55.8\%$), (Hence $H_{1A}$ is accepted).

Further data analysis, results in interpretation that eight Service quality (SQ) dimensions of Empathy, Network Quality, Convenience, Price Competitiveness, Responsiveness, Value Added Services, Complaint Handling and Tangibles are truly significant in explaining variance in Overall Service Quality (OSQ).

Of the eight Service Quality (SQ) dimensions, through beta coefficients, we find that a one unit change in Price Competitiveness brings about most change in Overall Service Quality (beta=.042), followed by changes in Empathy (beta=.40), Network Quality (beta=.038), Responsiveness (beta=.037), Value Added Services (.031), Complaint Handling and Convenience (both beta=.022) and lastly, Tangibles (beta=.017).

Negi’s (2009) study in Ethiopia with 227 customers using modified Servqual with Service Convenience found three dimensions of Reliability, Empathy and Network quality significantly contributing to Overall Service Quality (OSQ) with Reliability being the highest contributor. Though this current thesis study is not directly comparable as it is a modified Servqual with ten dimensions, it is interesting to see that in both the studies – Negi’s (2009) study and this current study; Empathy and Network quality are significant contributors to Overall Service Quality (OSQ) while Reliability which was a significant contributor in Negi (2009) study in Ethiopia, Reliability dimension does not figure as an important predictor in this thesis study, and in fact gets dropped off in the stepwise regression along with Assurance dimension. As per this researcher, the explanation to this can be the highly
competitive nature of the Indian Cellular Service market which, makes Reliability and Assurance (knowledge) as basic dimensions and customers expectations have now moved to finer discerning factors.

Seth, Momaya and Gupta’s (2008) India study with 230 customers using Multiple Regression showed all seven dimensions of service quality (five Servqual dimensions and additional two dimensions of Convenience and Network Quality) are important – The order of importance in their study showed Responsiveness, Reliability, Network Quality, Assurance, Convenience, Empathy, Tangibles as important in that order. While five of the factors of Seth, Momaya and Gupta’s (2008) study are significant in this thesis study also, two dimensions of Reliability and Assurance found significant in their study are not significant in this thesis study in explaining variance in Overall Service Quality (OSQ).

The explanation for the same by this researcher is that in Seth, Momaya and Gupta’s (2008) India study, Reliability and Assurance was important as at that time, even TRAI reports (Voice and Data user study 2008) indicated that the Indian cellular mobile service sector was struggling to satisfy the customers on even basic Service quality dimensions. The Indian cellular service sector has come a long way in these last five years (as is indicated with the better Service Quality ratings in latest TRAI reports) and hence Reliability and Assurance as Service Quality dimensions seem to be not important as predictors as they are considered as basic given factors. Also, since this thesis study is with a larger sample size, the results could be interpreted as more representative.

6.4.2 Hypothesis testing - Ten Service quality (SQ) dimensions and its effect on each of the five Behavioral Intentions dimensions

13. The Service quality (SQ) dimensions put together explain 26.6% variance in Word of Mouth (WOM), 24.6% variance in Repurchase Intentions (RI), 6.4% variance in Price Increase Tolerance (PIT), 3.1%
variance in External Response to Complaints (ERC) and 5.3% variance in Internal Response to Complaints (IRC) (as seen through R square values) (H2.1A, H2.2A, H2.3A, H2.4A, H2.5A are accepted).

This leads to interpretation that the contribution of the Service quality (SQ) dimensions in explaining for variance in Word of Mouth (WOM), though 26.6%, nearly 73% of Word of Mouth (WOM) behavior is unexplained. So also nearly 75.% of Repurchase Intentions (RI) is unexplained.

For the other three dimensions – namely Price Increase Tolerance (PIT), External Response to Complaints (ERC) and Internal Response to Complaints (IRC), explanation power of Service Quality (SQ) is very low.

The beta coefficients indicate that a one unit change in the four dimensions of Complaint handling (beta=.248), Reliability (beta=.095), Network Quality (beta=.068), and Responsiveness (beta=.060) are important in that order in bringing about most change in Word of Mouth.

The four dimensions of Network Quality (beta=.147), Empathy (beta=.124) Responsiveness (beta=.098), and Reliability (beta=.073) are important in that order in bringing about a change in Repurchase Intentions as is evident from the beta coefficients.

The two dimensions of Complaint Handling (beta=.091) and Network quality (beta=.065) are important in that order in bringing about change in Price Increase Tolerance.

The three dimensions of Complaint Handling (beta=.106) Value Added Services (beta=.104), and reduced Responsiveness (beta=−.061) bring about a change in the External Response to Complaints in that order.

The two dimensions of Network Quality (beta=.026) and Value Added Services (beta=.042) bring about a change in Internal Response to Complaints.
6.4.3 Hypothesis Testing – Overall Switching Costs and its effect on Repurchase Intentions (RI) and Price Increase Tolerance (PIT)

14. Regarding Overall Switching Costs, through Pearson correlation, we interpret that there is positive association between Overall Switching Costs and Repurchase Intentions. Also, there is positive association between Overall Switching Costs and Price Increase Tolerance. (H3.1A, H3.2A are accepted).

The positive association between perceived Overall Switching Costs and Repurchase Intentions (RI) established in this research, is in line with past research (Chadha and Kapoor, 2009; Kim et al 2004; Aydin and Ozer, 2005).

6.4.4 Hypothesis Testing – Stayers V/s Switchers

15. Analysis of mean differences between Stayers (those who have used/subscribed to only one cellular service provider to date) and Switchers (those who have used/subscribed to more than one cellular service provider to date) using t test reveals that there is no significant differences between Stayers and Switchers on Word of Mouth (WOM). (H4.1A is not substantiated).

However, Stayers have higher Repurchase Intentions (RI) and Price Increase Tolerance (PIT). (H4.2A & H4.3A are accepted).

6.4.5 Hypothesis Testing – Referral Customers V/s Other Customers

16. Analysis through t test shows that Referral customers (those who have subscribed to /are using current service provider based on references from family/friends) vis-à-vis other customers (those who have subscribed to /are using current service provider based on other sources of information), do not exhibit differences in any of the three behavioral dimensions of Word of
Mouth (WOM), Repurchase Intentions (RI), Price Increase Tolerance (PIT). (H4.4A, H4.5A, H4.6A, are not substantiated).

6.4.6 Hypothesis Testing –Years with current service provider

17. Interpretation using F test (ANOVA) shows that longer the number of years customers are with the service provider, higher is the customer’s Word of Mouth (WOM), Repurchase Intentions (RI) and Price Increase Tolerance (PIT). (H4.7A, H4.8A and H4.9A are accepted).

The current research showing that greater the number of years with service provider, greater is the Repurchase Intentions is in line with Ranganathan et al’s (2006) study which showed that service duration had inverse relationship with switching (in other words has positive relationship with Repurchase Intentions).

6.4.7 Hypothesis Testing – Effect of Prior Churn on Behavioral Intentions

18. Interpretation through F test (ANOVA) indicates that churn (the number of service providers used/subscribed to date) does not affect Word of Mouth (WOM). In other words, Word of Mouth (WOM) is independent of the number of service providers a customer has used/subscribed. (H4.10A is not substantiated).

However, Churn does affect Repurchase Intentions (RI) and Price Increase Tolerance (PIT) as greater the churn, lesser is the Repurchase Intentions (RI) and Price increase tolerance (PIT). We find that when the number of subscribers increases from two to three to four, Repurchase Intentions (RI) decrease and that Repurchase Intentions are higher when customers have not changed service providers at all (subscribed to only one service provider to date) though it rises again when customer have used more than four subscribers.
So also, Price Increase Tolerance (PIT) is highest when customers have not changed service providers at all and then as number of service providers subscribed/used increases, Price Increase Tolerance (PIT) decreases though it increases slightly for customers who have used more than four subscribers. (H4.11A and H4.12A are accepted).

6.4.8 Hypothesis Testing - Demographic Analysis of churn behavior

19. Through Chi-square we find that both Prepaid and Postpaid users do not exhibit differences in number of churn (unlike common understanding that it is easier, for prepaid to churn and hence prepaid are likely to churn more). (H5.1A is not substantiated)

20. Findings reveal that age does affect churn; as the age increases, the number of churn (switching behavior) reduces. (H5.2A is accepted)

This finding of age affecting churn finds support in past research. Myring (2003) showed how younger users are highly prone to defection. Also Ranganathan et al (2006) showed that with one year increase in age, odds of switching decrease by 2%.

21. Men and women exhibit different churn pattern; women churn (switch) lesser than men. (H5.3A is accepted)

Past research by Gilbert et al (2003) stated that females experience more technophobia and anxiety towards mobile technologies and hence less switching is likely. So also, Ranganathan et al’s (2006) findings showed that males are 1.16 times more prone to switching than females.

22. Analysis reveals that education affects churn. As education increases, churn also increases. (H5.4A is accepted)

23. Analysis reveals that occupation affects churn—Homemakers and Retired mostly do not churn. Students and Business class churn more. Students have fairly large percentage of customers who have subscribed to
two or three service providers (56%) Business class have many who have subscribed to two or three service providers to date (53%) and some have subscribed to four service providers to date (9%). In Service class, only 48% have subscribed to two or three subscribers to date. (H5.5A is accepted).

24. Average bill affects churn pattern; as average bill size increases, churn also increases. (H5.6A is accepted)

6.4.9 Hypothesis Testing - Demographic Analysis of Reasons for switching

25. Reasons for switching shows through Chi-square that customers switch more or less equally due to unhappiness with service provider as with attractive competitive offers, followed by friends/family, changing cities and corporate tie up as reasons for switching.

Further analysis reveals that while Prepaid users switched more for attractiveness of competitive offers, followed by unhappiness with service provider, then friends / family and then changing cities, Post paid users’ main reason for switching is clearly unhappiness with service provider, followed by corporate tie-ups while attractive competitive offers is the third reason and friends / family is fourth reason. (H5.7A is accepted).

26. Analysis reveals that as age increases (40 years and above) it is unhappiness with service provider that is the prepotent reason for switch unlike for age group 15-40 years where attractiveness of competitive offerings is the predominant reason for switching. Also friends/ family as reason for switching has highest influence on 15 to <20 years age groups & > 65 years age group (H5.8A is accepted).

27. It is also indicated that gender differences does not affect reasons for switching. Men and women have more or less same reasons for switching (H5.9A is not substantiated).
28. Analysis shows that educational qualification differences affect reasons for switching; as education qualification increases, attractiveness of competitive offerings becomes more important reason than unhappiness with service provider and friends/family as a reason becomes smaller. Higher the education, changing cities and corporate tie-ups also acquire more importance. (H5.10A is accepted).

29. Findings show that occupation does not affect reasons for switch. (H5.11A is not substantiated).

30. Findings reveal that Average bill size per month also affects reasons for switch. While for small bill sizes, attractiveness of competitive offers is more prepotent reason than unhappiness to cause switch; as bill size increases, unhappiness is a bigger reason to switch than attractive competitive offers (H5.12A is accepted).

6.5 CONCLUSIONS OF INTERPRETATION AND DISCUSSION OF RESULTS CHAPTER

This chapter presents interesting areas of interpretations both from descriptive analysis and the inferential studies. These interpretations form the basis for the next chapter on conclusions and recommendations.