Chapter 6 **Findings, Conclusions and Managerial Implications**

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6.1 Summary of Findings and Conclusions

From the calculated Spearman’s statistics it is summarized that there is significant relationship between brand image and consumer perception about quality of services in case of BSNL and that Brand Image and Consumer Perception about Quality of Services are positively correlated.

Also it is found from the calculated Spearman’s statistics that there is no significant relationship between brand image and company market performance and there is no correlation between brand image and company market performance in case of BSNL.

From the Spearman’s statistics it can be summed up that there is no significant relationship between consumer perception about quality of services and company market performance and there is no correlation between consumer perception about quality of services and company market performance in case of BSNL.

It is also concluded from Spearman’s statistics that there is no significant relationship of brand image and consumer perception about quality of services with company market performance and there is no joint correlation of brand image and consumer perception about quality of services with company market performance in case of BSNL.

In case of Vodafone, from Spearman’s statistics it is summarized that there is significant relationship between brand image and consumer perception about quality of services and that Brand Image and Consumer Perception about Quality of Services are positively correlated.

From the Spearman’s statistics it is also found that there is no significant relationship between brand image and company market performance and that brand image and company market performance are not correlated in case of Vodafone.

It is also concluded from Spearman’s statistics that there is no significant relationship between consumer perception about quality of services and company market
performance and there is no correlation between consumer perception about quality of services and company market performance in case of Vodafone.

It is found from Spearman’s statistics that there is no significant relationship of brand image and consumer perception about quality of services with company market performance and there is no combined correlation of brand image and consumer perception about quality of services with company market performance in case of Vodafone.

In case of Airtel, from the calculated Spearman’s statistics it can be summarized that there is significant relationship between brand image and consumer perception about quality of services and that Brand Image and Consumer Perception about Quality of Services are positively correlated.

It is also summarized that there is no significant relationship between brand image and company market performance and there is no correlation between brand image and company market performance in case of Airtel.

It is concluded from Spearman’s statistics that there is no significant relationship between consumer perception about quality of services and company market performance and there is no correlation between consumer perception about quality of services and company market performance in case of Airtel.

It can be summed up from calculated Spearman’s statistics that there is no significant relationship of brand image and consumer perception about quality of services with company market performance and there is no combined correlation of brand image and consumer perception about quality of services with company market performance in case of Airtel.

In case of Idea from Spearman’s statistics it can be summarized that there is no significant relationship between brand image and consumer perception about quality of services and there is no correlation between Brand Image and Consumer Perception about Quality of Services.
It is found from Spearman’s statistics that there is significant relationship between brand image and company market performance and that brand image and company market performance are positively correlated in case of Idea.

It is concluded from Spearman’s statistics that as there is no significant relationship between consumer perception about quality of services and company market performance and that there is no correlation between consumer perception about quality of services and company market performance in case of Idea.

In case of Idea it can also be summed up from Spearman’s statistics that there is no significant relationship of brand image and consumer perception about quality of services with company market performance and there is no joint correlation of brand image and consumer perception about quality of services with company market performance.

From the factor analysis conducted on BSNL respondents’ data Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) was found to be 0.703 which indicates that the sample was good enough and that factor analysis can be carried out. Bartlett’s test of sphericity showed statistically significant number of correlations among the variables (Approx. Chi square = 548.341, df = 136, Sig. = 0.000). Reliability of the service has been accounted for highest 86.2% variance.

Principal component analysis is employed for extracting factors. Wherein, first factor accounted for 21.065% of the variance, the second 12.559% and the third 10.925%.

The Scree plot graphs the Eigen value against the component number. From the seventh factor on, the line is found to become flat, meaning that each successive factor is accounting for smaller and smaller amounts of the total variance.

The component matrix showed the loadings of the 17 variables on the 6 factors extracted. Rotated component matrix shows further reduced no. of variables.
Variables such as Reliability, Response Time, Network Strength, Voice Clarity, Coverage, Customer Care, Advertisement and Subscriber Share are found to be vital in case of BSNL.

From the factor analysis conducted on Vodafone respondents’ data Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) was found to be 0.732 which indicates that the sample was good enough and that factor analysis can be carried out. Bartlett’s test of sphericity showed statistically significant number of correlations among the variables (Approx. Chi square = 506.248, df = 136, Sig. = 0.000). Call Drop Rate of the service has been accounted for highest 85.5% variance.

Principal component analysis is employed for extracting factors. Wherein, the first factor accounted for 19.760% of the variance, the second 10.902% and the third 10.238%.

The Scree plot graphs the Eigen value against the component number. From the eighth factor on, the line is found to become flat, meaning that each successive factor is accounting for smaller and smaller amounts of the total variance.

The component matrix shows the loadings of the 17 variables on the 7 factors extracted. Rotated component matrix shows further reduced no. of variables.

Variables such as Voice Clarity, Customer Care, Network Strength, Reliability, User Friendliness, Coverage and Consumer Forums are found to be important in case of Vodafone.

From the factor analysis conducted on Airtel respondents’ data Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) was found to be 0.725 which indicates that the sample was good enough and that factor analysis can be carried out. Bartlett’s test of sphericity showed statistically significant number of correlations among the variables (Approx. Chi square = 466.844, df = 136, Sig. = 0.000). Voice Clarity of the service has been accounted for highest 85.3% variance.
Principal component analysis is employed for extracting factors. Wherein, the first factor accounted for 17.037% of the variance, the second 12.809% and the third 11.676%.

The Scree plot graphs the Eigen value against the component number. From the eighth factor on, the line is found to become flat, meaning that each successive factor is accounting for smaller and smaller amounts of the total variance.

The component matrix shows the loadings of the 17 variables on the 7 factors extracted. Rotated component matrix shows further reduced no. of variables.

Variables such as Recharge Facility, Consumer Forums, Word of Mouth, Customer Care, Call Drop Rate, Network Strength, ARPU and VAS are found to be important in case of Airtel.

From the factor analysis conducted on Idea respondents’ data Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) was found to be 0.701 which indicates that the sample was good enough and that factor analysis can be carried out. Bartlett’s test of sphericity showed statistically significant number of correlations among the variables (Approx. Chi square = 302.339, df = 136, Sig. = 0.000). User Friendliness of the service has been accounted for highest 82.6% variance.

Principal component analysis is employed for extracting factors. Wherein, the first factor accounted for 16.166% of the variance, the second 10.209% and the third 9.710%.

The Scree plot graphs the Eigen value against the component number. From the eighth factor on, the line is found to become flat, meaning that each successive factor is accounting for smaller and smaller amounts of the total variance.

The component matrix shows the loadings of the 17 variables on the 7 factors extracted. Rotated component matrix shows further reduced no. of variables.
Variables such as Voice Clarity, User Friendliness, Word of Mouth, ARPU, Billing Transparency and Reliability are found to be vital in case of Idea.

From the factor analysis conducted on other service provider respondents’ data, Kaiser-Meyer-Olkin measure of sampling adequacy (MSA) was found to be 0.707 which indicates that the sample was good enough and that factor analysis can be carried out. Bartlett’s test of sphericity showed statistically significant number of correlations among the variables (Approx. Chi square = 657.622, df = 136, Sig. = 0.000). Coverage of the service has been accounted for highest 85.8% variance.

Principal component analysis is employed for extracting factors. Wherein, the first factor accounted for 17.451% of the variance, the second 15.226% and the third 13.237%.

The Scree plot graphs the Eigen value against the component number. From the eighth factor on, the line is found to become flat, meaning that each successive factor is accounting for smaller and smaller amounts of the total variance.

The component matrix shows the loadings of the 17 variables on the 7 factors extracted. Rotated component matrix shows further reduced no. of variables.

Variables such as Subscriber Share, Response Time, Word of Mouth, Call Drop Rate, ARPU, Coverage and Recharge Facility important in case of other service providers.

From the Chi-Square statistics it can be summarized that current service provider is not independent of brand image and that consumers take into consideration brand image before opting the mobile service provider. Also, it can be summarized that as Current Service Provider is independent of Consumer Perception about Quality of Services.

It is summarized from the Chi-Square statistics that current service provider is not independent of company market performance and that consumers give consideration to the company market performance. And also that current service provider is not
independent of consumer’s association with the service provider and that consumer’s satisfaction leads to longer association with the service provider.

It is found from calculated Chi-Square statistics that current service provider is not independent of technology of service and that consumers take into consideration to technology of interest before choosing the service provider. Also that current service provider is not independent of type of service used by consumers and that consumer’s choice of prepaid or postpaid service is related to the current service provider.

It is concluded from the Chi-Square statistics that current service provider is not independent of different age groups of consumers and that different age groups of consumers may carefully associate with service providers. Also that current service provider is not independent of gender difference of consumers and that male and female consumers may have differences of opinion in choosing service providers.

It can be summed up from the Chi-Square statistics that current service provider is not independent of education of consumers and that education of consumers does play role in their selection of service providers. Also that current service provider is not independent of occupation of consumers and that occupation of consumers does play role in their selection of service providers.

From the Chi-Square statistics it can be summarized that current service provider is not independent of marital status of consumers and that marital status of consumers does affect their selection of service providers.

It is concluded from the Chi-Square statistics that current service provider is not independent of time spent by consumers on mobile phone using the services of the service providers and that consumers’ amount of time spent on mobile has association with their choice of service provider.

It can be summarized from Kruskal Wallis Test that there is significant difference between different age groups and selected services offered by the service providers and that service providers should design selected services to match the requirements of different age groups.
It is also found from the test statistics of Kruskal Wallis Test that for all the selected services except for SMS, receiving Updates, Applications and Game downloading and Payment using mobile phones, is less than 0.05 and hence it can be said that the service providers should give special consideration to Calling, Call Management, Emailing, MMS, Internet Access, Caller tunes and Ringtones to suit the requirements of different gender.

It can be summarized from the test statistics of Kruskal Wallis Test that there is significant difference between different education levels and selected services offered by the service providers. The service providers should design selected services considering the education level of the subscribers.

It is concluded from the test statistics of Kruskal Wallis Test that there is significant difference between different occupations and selected services offered by the service providers. Occupations do play an important role in use of different selected services offered by the service providers.

It can also be summarized from Kruskal Wallis Test that there is significant difference between different monthly income groups and selected services offered by the service providers except internet access which may be dependent on other factors and not only on monthly income. Monthly income is a vital factor in choice and use of different selected services. And also that there is significant difference between marital status and selected services offered by the service providers.
6.2 Suggestions

Examining the results in case of BSNL, Vodafone and Airtel it can be inferred that brand image and consumer perception about quality of services share positive relationship with each other that is good quality of service would lead to strengthening of brand image which is very much essential for any company competing in the market. Whereas the findings do not support direct relationship between brand image and company market performance and between consumer perception about quality of services and company market performance and brand image and consumer perception about quality of services taken together with company market performance that is company market performance may be depending on other parameters as well. BSNL, Vodafone and Airtel should work on other parameters other than building up of brand image and improvement quality of services as well to further perform well in the market.

In case of Idea, brand image and consumer perception about quality of services do not share positive relationship with each other that is only improving brand image would not lead to satisfaction about perceived service quality and that company should give special attention to improvement in services provided by them. Also brand image and company market performance share positive relationship and campaigns run by Idea are aiding to the market performance of the company and they should be continued. However direct relationship is not supported between consumer perception about quality of services and company market performance and brand image and consumer perception about quality of services taken together with company market performance that is other parameters may also be taken into consideration to improve market performance.

BSNL should give attention to reliability of the services due consideration at the same time shortening response time, lessen network congestion to improve network strength in city area, voice clarity, coverage and improving customer care are the target areas for company to improve the performance. Advertising of the services is also necessary to create awareness in order to lure more users to come under BSNL fold to increase subscriber share.
For Vodafone voice clarity, customer care, network strength, reliability, user friendliness and coverage have been very strong and should keep that up. Creation of consumer forums should be done in order to build up strong feedback mechanism.

In case of Airtel, recharge facility availability, consumer forums, word of mouth, customer care, call drop rate, network strength and value added services have been found as strong points. Whereas decreasing average revenue per user is a matter of prime concern for all providers which can be improved by increasing the spread of value added services.

Idea is found good with voice clarity, user friendliness, word of mouth and billing transparency whereas needs to work on other parameters to improve its position in the market.

Overall all the providers may strengthen their core part that is service to build up the brand image and improve market performance as well.

Consumers take into consideration brand image before opting for service provider whereas perception of service quality is developed only while using the service. So, reinforcing the image is vital for the providers whereas growing subscriber share leads to good market performance. Longer association of consumer with the service provider reflects loyalty of the consumer towards service provider. Consumers carefully choose prepaid or postpaid service and GSM or CDMA service according to their requirements.

Demographics such as age groups, gender, education level of consumers, occupation of the consumers, marital status do affect consumers’ choice of service providers and services provided by them. Service providers should carefully design the services considering demographics in order to have better synchronization between their needs and services provided to win consumer’s trust and long association.

Various services provided by the providers should be revisited again and again for constant improvements to match the consumer requirements keeping in mind policy
changes, market dynamics and technological advancements to keep the consumer experience with the service provider pleasing and pulsating.

### 6.3 Further Research Scope

The present research work is carried out for Indian telecom industry mobile service providers to explore the relationship among brand image, consumer perception about quality of services and company market performance in Gujarat area. The research can be conducted at National level as well.

The research can be done Industry-wide rather than for limited service providers. Other variables can be added to the study and other relationships can be investigated.

The research can be further extended to study factors responsible to understand switching behavior of the consumers due to mobile number portability. In order to develop strategies to guard consumer churn and retain them to have firm grip on the market share.

The study can also be conducted for data services given the boom with the advent of smart phones and increasing reliance on data services as it is important for increasing per user revenue as well.

The variables studied in the present work can be studied for other allied industries as well so as to understand and see that whether these relationships hold true for them or change over different industries.
6.4 Managerial Implications

The progress and the changes in telecom have been astronomical, with new and cheaper technologies taking birth almost each year. Driven by wireless communication, the telecommunications industry is recognized as a key to the rapid growth and modernization of the economy and an important tool for socio-economic development of a nation. Considering the findings and conclusions following inferences can be made from the study:

Major factors responsible for the growth of telecommunications industry are use of modern technology and market competition. The growth of Indian telecommunication sector is highly driven by supportive government policies, emerging new technologies and changing consumer behavior.

Telecom tariffs have been on a long-term downward trend. Changing consumption patterns and market conditions, as well as, competitive pressure from peers and new entrants, substantiate the need for managers to be creative and innovative in whatever they do.

Innovative tariff plans of voice and data services are one of the best ways for managers to differentiate themselves from the competition. Tariff plans, which provide flexibility to connect multiple devices, differentiated pricing at off-peak hours and seamless connectivity via 2G, 3G, 4G and Wi-Fi are likely to attract customers. Segmentation of customers and targeted marketing of different service offerings would be crucial for success.

With subscriber base heading towards saturation, the operators need to focus on retaining the customers. Hence, getting the most out of customer data and consistently managing customer experience are likely to be the key differentiators for managers.

Managers need to add new data and video services to their offerings as they cannot afford to depend on revenues from voice and SMS in times when ARPU is constantly decreasing. Most of these offerings will need close cooperation between technology, content and service providers along with handset manufacturers.
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