CHAPTER 5—SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Researcher’s Overview

The chapter summarizes research study; identifies implications, contributions, limitations and future research area. It also presents research conclusions, and offers recommendations.

The conclusions are related to consumer behavior of television users, internal service quality scale, validity & reliability of service quality constructs, predictive relationship between internal and external service gaps, magnitude & strengths of service gap relationships, mediation effect of delivery & communication gap, and brand differentiations on service quality. The summarization is based on outputs of descriptive statistics, confirmatory factor analysis, structural equation modeling, post hoc analysis, and nonparametric tests across brands and service gaps.

Later part of the chapter discusses recommendations for action. These are about predictive relationship of service gaps model, measurement instrument, individual service gaps measurement, importance of internal service quality, mediation role of delivery & communication, prioritize service knowledge and delivery, and consumer preference of television buyers.

Summary

This research aims at measurement and reasoning of service gaps model. It investigates predictive relationships between internal and external service gaps in retailing of televisions. It compares between five service gaps for their magnitudes & strengths of relationships; and also analyzes top three television brands for their retail service differentiation. The predictive relationships of service gaps; though proposed in 1985 (Parasuraman et al., 1985) remained empirically unattended for their simultaneous predictive relationships.

While service gaps model, founded on ‘disconfirmation theory’; is developed for conceptualizing service quality based on gaps in ‘perceptions’ and ‘expectations’ of customers; the SERVQUAL scale is developed for operationalizing service quality (Parasuraman et al., 1988). Over the period of time, various modifications and corrections are suggested in the model and measurement scale.
Literature review has identified two major research gaps on the topic. First, the past literature is mainly developed around identification & measurement of external service quality (ESQ) gaps; and analysis of simultaneous predictive relationships is not addressed. Second, some literature is available on internal service quality (ISQ); it also mainly focuses on identification & measurement of gaps; and analysis of simultaneous predictive relationships is not address. Internal service quality (ISQ) is always studied from ‘employee perception’; and the ‘customer perception’ is not studied.

Thus to answer research problem of understanding of internal service quality and the predictive nature of service gaps, following research questions are formulated. The research questions are organized based on relevance to the study objectives.

**Primary research questions.**

Research questions- model.

- Do internal service gaps have any predictive relationship with external service gap?
- Do internal service gaps (knowledge gap, design gap, delivery gap, and communication gap) have any interactive relationships with each other?

Research questions- service gaps.

- Is service knowledge, an important ingredient to the service quality?
- How fulfilling is retailer’s service design?
- How effective is retailer’s service delivery?
- Is retailer’s service communication effective?
- Can service gaps be measured and compared with each other?
- Are service gaps equal in magnitude? How large are service gaps?

Research questions- brand differentiation.

- Are television brands able to differentiate themselves on retailer service quality?
**Secondary research questions.**

*Research questions- measurement.*

- How a valid and reliable measurements scale be developed for ‘internal service quality gaps’?
- How the service quality gap scales be used for studying relations between various service gaps?
- Are service gaps constructs applicable to television retail service?

*Research questions- descriptive analysis.*

- What brands, technologies, and screen sizes are preferred by television customers?

The research questions, calls for a deeper understanding of service gaps. Since the study involved formation of latent factors for gaps, a Likert scale is employed for measurement. Since the latent factors of service gaps are to be tested for simultaneous relationships, advanced methodology of confirmatory factor analysis (CFA) and structural equation modeling (SEM) is recommended for use. The research questions are then converted into research objective considering for the methodology.

**Primary objectives.**

*Objective- model testing for predictive relationships of gaps.*

- To test the model for predictive relationships of internal service gaps to external service gap.
- To investigate relationships between various internal service gaps namely knowledge gap, design gap, delivery gap, communication gap, and external service gap.

*Objective- service gaps analysis.*

- To measure, analyze and compare service gaps.

*Objective- brand differentiation.*

- To identify top three television-brands, and study their retail service quality differentiation.


**Secondary objectives**

*Objective* - questionnaire development.

- To develop a valid and reliable questionnaire for internal service quality.
- To confirm constructs of internal and external service quality.

*Objective* - descriptive Analysis.

- To identify customer preference of television brands, technologies, and screen sizes.

To operationalize the objectives; considering requirement of robust measurements and predictive nature of factor interactions, a descriptive & analytical research method, based on confirmatory factor analysis (CFA) and structural equation modeling (SEM) is undertaken. Data is collected from households of Indian city of Pune. The methodology of construct measurement is conceptually similar to SERVPERF scale (Cronin & Taylor, 1992). The scale consists of 26 items measured on 1 to 7 of Likert scale. The scale is then tested for reliability and validity of measures using; average variance extracted (AVE), construct reliability, discriminant validity, nomological validity, internal consistency (reliability), content validity/ face validity, and Harman’s common method bias. Subsequent data analysis provided important findings; suggesting valuable conclusions and recommendations.

There is consumer inclination towards specific brands, technologies, and screen sizes. The internal service quality (ISQ) gap scale is a valid & reliable measure of service quality. The predictive relationships of internal and external service gaps in retailing of televisions are established. Simultaneous presence of service delivery and communication is important for bigger total effect of service design to customer service. Of four internal gaps, knowledge gap is the largest gap; delivery gap is second largest; design & communication gap though are different from other gaps, are not significantly different from each other. External gap is second largest of all gaps and is significantly different from all internal gaps. However comparison of top three television brands could not finds any significant differentiation on retail service quality.
Managerial Implications

This is the first empirical study, confirming predictive relationships between various internal service gaps with external service gap. The retail managers may view service quality as a chain of reaction originating from service knowledge, to service design, to service delivery, to communication; ending up at customer service.

Every effort to bridge internal service gaps should ultimately bridge external (customer) service gap. Study proposes methods to improve internal business process for internal service quality improvement, which is expected to ultimately improve external service quality. The recommended measures for improving internal and external service quality are listed as; know consumer behavior, track external service quality, track internal service quality, simultaneous improvement in business process, and focus on service knowledge gap & delivery gap.

Know consumer behavior. Top three brands; Sony, Samsung, and LG have captured over 75% of the market share; while other 18 brands makeup just 25%. Similarly, customers are found to be well receptive to buying new technology televisions. Customers also display typical preference to screen sizes; sizes in the range of 31 to 41 inch are preferred over other sizes. Thus, working executives may use this key consumer insights during product planning & development. Other feature based consumer behavior may also be studied for better understanding the television consumer behavior.

Track external service quality. Adequate, focused, and regular tracking of external service quality may be piloted, and actions be taken for improvements. Instruments like SERVQUAL, SERVPERF are readily available in published literature. Many other industry-specific scales are also available for use. Some of these scales are discussed in literature review section.

Track internal service quality. In addition to external service quality, practicing managers may track internal service quality. Instruments like INTSERVQUAL and many others are readily available for measurement of internal service quality – from employee perspective. Many of the tools are discussed in the literature review. Alternatively, industry practitioners may use internal service quality
(ISQ) scale – from customer perspective, developed by this researcher. The questionnaire is generalized in nature and tested for validity & reliability.

Internal service quality is hypothesized to be interlinked function of; service knowledge, service design, service delivery and communication. Every aspect of internal service should be focused for their combined effect on customer service.

Firstly, managers should conduct adequate market research to know their customers well. Secondly, organizations can develop robust service design based on customer feedback. Thirdly, they can improve management of employees, educate customers, manage intermediaries effectively, and try to match supply & demand. Finally, they can integrate communications across the service process, prevent tendency to overpromise, and improve interdepartmental communication.

Simultaneous improvement in business processes. In general all internal service gaps should be improved simultaneously for enhanced total effect; especially service delivery and communication improves the total effect – in presence of each other.

Focus on service knowledge gap and delivery gap. Managers are advised to focus on improving service knowledge by listening to their customers; additionally they are advised to improve service delivery for effective improvement in external service quality.

Contribution of Research

- This is for the first time, that the simultaneous predictive relationship between internal service quality and external service quality is empirically tested. The research goes a step ahead and explains predictive relationships between knowledge gap, design gap, delivery gap, communication gap and external (customer) gap.

- One of the important contributions of this research is, it has proposed validity & reliability tested, generalized service quality constructs and questionnaire for internal service quality measurement using customer perspective.
The research for the first time analyzes service gap magnitudes and strength of their relationships. The study highlights importance of good service communication and good service delivery as the mediators to customer service quality.

Limitations of Current Study

The study has few limitations arisen at various stages of problem formulation, research design, data collection, and analysis. Important limitations of the study are identified as follows. Later the limitations are addressed using various alternatives and options.

1. Convergent validity of service gaps constructs using average variance extracted (AVE) for delivery gap (0.438), and design gap (0.327) are lower than expected value of 0.5; and the AVE score of knowledge gap (0.487) is just close to 0.5.

   Since AVE scores for few constructs are smaller than expected score of 0.5, other convergent validity measures of factor loadings, and construct reliability are used. Both these measures indicate convergent validity.

2. Discriminant validity using squared correlations for few of the constructs, are larger than corresponding AVE scores; indicating lower discriminant validity of the model.

   Literature suggests theoretical relationships between various constructs could be the reason of low discriminant validity. Low discriminant validity can also be because of presence of other dimensions to be explored. It is considered to be a common difficulty faced in attitude measurement constructs (Parasuraman, Berry, & Zeithaml, 1993).

   Reflections to other limitations is provided as follows. Recollecting old interactions with retailers may be difficult for customers, but television being a high value purchase recollecting retail interactions is considered to be possible. Most of the
customers have made multiple purchases from the same retailers; hence the general nature of interaction is likely to be recollected by the customer.

Even though customer is not the perfect respondent for internal aspect of the research; under requirement of simultaneous testing of predictive relationship between internal service gaps and external service gap; the customer is considered to be the better respondent than employee.

Simultaneous nature of the relationship between internal service gaps & external service gap, needed data to be collected from single source, either employee or customer. Employee judgment of external (customer) service gap is not recommended by the literature; hence customer is used as the respondent.

To address sampling error a large sample of 705 is used for analysis. Even though the research is a cross-sectional study, similar research in different settings of location, time, and demographic setup may validate the model further.

**Future Research**

This study opens up several areas for future research. Since the research confirms the service gaps model and, predictive behavior of internal and external service gaps; the future research may be directed at applying the methodology to other concepts.

The study has developed a generalized internal service quality (ISQ) scale – *from customer perspective*. The proposed questionnaire is tested using various validity & reliability measures. The instrument can be modified and applied across various service industries, service products; and at different location settings. The instrument can also be used for longitudinal study of internal service quality to analyze periodic variations.

This research compares service quality across three television brands. The future research may be directed at comparison between types of retailer, technologies, customer, and any other groups under study.

The instrument may be further restructured to improve upon measures of average variance extracted (AVE), discriminant validity, and multivariate normality.

The five constructs developed during the research may also be used for future study for investigating relationship with other evolving service concepts like service experience, customer satisfaction, customer loyalty and any others.
Conclusions

1. Descriptive analysis has revealed interesting information related to consumer behavior, towards purchase of television brands, technologies, and sizes. About 20+ competing brands have made this industry a very competitive one. Top three brands Sony, Samsung, and LG have captured over 3/4th of market share and are clearly dominating the market. Acceptance of latest technology by television customers is encouraging. Latest LED technology is well received by the market. LCD, a relatively old technology is also equally available in the households. Even oldest technology television sets of normal/CRT are being used by customers. Analysis of television screen sizes shows that, customers are more likely to buy televisions of 32 to 41 inch; while televisions larger than 51 inch are least preferred.

Thus the customers have inclination towards specific television brands, latest technologies, and screen sizes.

2. For this study, a questionnaire is developed for measurement of internal service quality gaps – from customer perspective. Acceptable measures of validity & reliability; and model fitness indices of confirmatory factor analysis (CFA); could confirm constructs design.

Thus it is concluded that the service gaps instrument developed for the measurement is valid & reliable, and can be used for future research.

3. Structural equation modeling of service gaps model, with few modifications; could estimate significant regression weights, covariances, and variances; thus endorsing predictive relationships between latent constructs. The fit indices are also within the acceptable range indicating confirmation of the structural model.

Thus existence of service gaps predictive relationships cannot be denied; and the model cannot be rejected in the present form. This conclusion is important because, it is for the first time the predictive relationship is empirically established.
4. The knowledge gap is found to exert significant relationship with design gap. Design gap is significantly affecting delivery, and communication gap. ‘Delivery gap’ and ‘communication gap’ are significantly affecting external service gap.

*The strongest relationship exists between design gap and delivery gap, indicating importance of planning-stage to execution-stage of the service quality. The second strong link is between design and communication, indicating importance of better planning and communication.*

5. Mediation analysis indicates that, presence of delivery gap and communication gap can aggravate relationship between design gap and external (customer) gap.

*To effectively improve external (customer gap);—delivery gap and communication gap, both needs to be addressed simultaneously.*

6. Comparison between service gaps shows that knowledge gap is the largest service gaps of all internal gaps; followed by delivery gap; while design and communication gap are similar in magnitude.

*Knowledge gap should be the top priority for overall improvement of customer service; followed by delivery gap.*

7. One of the research aims is to investigate, if brands are able to differentiate themselves on retail service gaps. Kruskal-Wallis test across three brands is carried out to investigate this relationship.

*Analysis shows inability of any the top three brands to differentiate itself on retail service quality.*


**Recommendations for Action**

This research in gaps approach to service quality, the magnitudes of service gaps, the predictive relationships between internal & external service gaps, and analysis of gaps across top three brands;—offers following recommendations.

*Service gap model predictive relationship.* This study confirms predictive relationships between internal service gaps of; knowledge, design, delivery, and communication;—with external (customer) service gap.

*The service gap model is recommended as a good model for defining predictive relationships between four internal service gaps and external gap. Internal service quality is also recommended as a good predictor of external (customer) quality.*

*Strength of relationships between gaps.* Service design has strongest regressive relationship with service delivery followed by communication.

*Improvement in service design is recommended for effective improvements in service delivery and service communication.*

*Individual service gaps measurement.* The questionnaire proposes measures for five constructs of knowledge gap, design gap, delivery gap, communication gap and external (customer) gap.

*Four internal service gap constructs are recommended for measurement and analysis of relationships in-between and with other constructs.*

*Measurement instrument.* The research has developed a generalized questionnaire for measurement of internal service quality – *from customer perspective*. The measurement scale and constructs are also tested for validity & reliability.

*The generalized internal service gaps scale is recommended for use under varying geographic and time conditions;—with required industry specific modifications.*
Mediation role of delivery and communication. The research shows that, the relationship between design gap and external (customer) gap is partially mediated by delivery gap and communication gap. Presence of communication tends to improve total effect of service design to customer service. Similarly, presence of service delivery improves total effect of service design to customer service.

The simultaneous effect of delivery and communication is important and is recommended for defining relationship of service design to customer service.

Prioritize service knowledge and delivery. Service knowledge gap is the largest and delivery gap is second largest internal service gap based on median analysis.

Bridging knowledge gap and delivery gap are recommended as the priority internal service measures for improvement.

Consumer preference of television buyers. Research shows customer inclination towards brands of Sony, Samsung, and LG; latest technology; and screen sizes of 31 to 41 inch.

Analysis of brands, technologies, screen sizes and other similar behavioral data is recommended for television consumer behavior study.