CHAPTER 3: REVIEW OF LITERATURE

3.1 Concept of Service: An Overview
   3.1.1 Characteristics of Services
3.2 Understanding Service Quality
3.3 Service Quality and Customer Satisfaction
3.4 Models of Service Quality
   3.4.1 SQM 1. The Disconfirmation Model Of Service Quality
   3.4.2 SQM 2. Nordic Service Quality Model
   3.4.3 SQM 3. Kano’s Model Of Customer Satisfaction
   3.4.4 SQM 4. The Gaps Model Of Service Quality
   3.4.5 SQM 5. Performance Only Model Of Service Quality
   3.4.6 SQM 6. Six-Sigma Model Of Service Quality
   3.4.7 SQM 7. Internal Service Quality Model
   3.4.8 SQM 8. Customer Equity Framework
3.5 Dimensions of Service Quality
3.6 Service Quality in Airline Industry
3.7 Role of IT in Service Delivery
3.8 Low Cost No Frills Model of Customer Service
3.9 Recent Studies on Civil Aviation in India
3.10 Research Gap
3.11 Chapter Summary
Chapter Overview

The goal of this chapter is to provide a review of the extant literature relating primarily to service quality in the context of airline industry. Based on this literature survey, an attempt has also been made to establish the research gaps, which provided the basic framework on which the conceptual model of present research is based.

The literature on services marketing has been examined from a purely historical perspective to determine its impact on the field of service quality. Then, a brief review of the relationship between customer satisfaction and service quality precedes the literature review defining service quality, and issues in measurement of service quality. Various models of service quality developed over time have also been discussed.

The study of the literature also focuses on the importance of service quality measurement in airlines, service as an attribute in airline selection, impact of service quality on airline profitability, and the validity of scales like SERVQUAL in airline applications. LCC model of service delivery and role of IT in airline service delivery too has been examined. The chapter concludes by focusing on the recent studies on civil aviation in India and a summary of the research issues.

3.1 Concept of Service: An Overview

Service, in general, refers to efforts, deeds or processes consisting of a series of activities performed by the service provider, quite often in close co-operation and interaction with the customer. However, the services marketing literature contains many definitions of services. Gronroos (2007) defines service as a process consisting of a series of more or less intangible activities that normally, but not necessarily always, take place in interactions between the customer and service employees and / or physical resources or goods and / or systems of the service provider, which are provided as solutions to customer problems. Bateson (1992)
argued that goods/service dichotomy is a subtly changing spectrum, with firms moving their position within this spectrum over time. Zeithaml and Bitner (2003) holds that services include all economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced and provides added value in forms (such as convenience, amusement, timeliness, comfort or health) that are essentially intangible. Vargo and Lusch (2004) defined service as the application of specialized competences (operant resources – knowledge and skills), through deeds, processes and performances for the benefit of another entity or the entity itself. Kotler & Keller (2006) defines services as any act or performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product. Kasper, Helsdingen and Gabbott (2006) observed that services are originally intangible and relatively quickly perishable activities whose buying, which does not always lead to material possession, takes place in an interactive process aimed at creating customer satisfaction.

3.1.1 Characteristics of Services

Services have five important characteristics – intangibility, inseparability, heterogeneity, inability to own and perishability. Each characteristic poses problems and requires strategies to deal with those problems (Shanker, 2002). Intangibility is one of the most important characteristics of services i.e. they do not have a physical dimension. Often services are described using tangible nouns but this obscures the fundamental nature of the service which remains intangible e.g. ‘airline’ means air transportation, ‘hotel’ means lodging rental. Berry (1980) describes a good as an object, a device, a thing in contrast to a service which is a deed, a performance, an effort. He argued that even though the performance of most services is supported by tangibles, the essence of what is purchased is a performance. The implication of this argument is that consumers cannot see, touch, hear, taste or smell a service; they can only experience the performance of it (Carman and Uhl, 1973; Sasser, Olsen & Wyckoff, 1978). This makes the perception of service a highly subjective and abstract concept.
The second characteristic of services is the inseparability of the production and consumption aspects of the transaction. The service is a performance, in real time, in which the purchaser cooperates with the provider. The inseparability of the role of service provider and consumer also relates to the lack of standardization since the service provider can alter both - the way in which service is delivered, as well as what is delivered – which has important implications for both the management and the evaluation of the service product.

The heterogeneity of services refers to the fact that services are delivered by individuals and therefore each service encounter will be different by virtue of the participants or time of performance. As a consequence, each purchaser is likely to receive a different service experience.

The perishability of service describes the real time nature of the product. Services cannot be stored unlike goods, and the absence of the ability to build and maintain stocks of the product means that fluctuations in demand cannot be accommodated in the same way as goods. The time of service delivery is critical to its performance and therefore consumers’ experience (Kasper et al., 2006).

The purchaser only has temporary access or use of service. What is owned is the benefit of the service, not the service itself, e.g. in terms of a holiday the purchaser has the benefit of the flight, hotel and beach but does not own them. The absence of ownership stresses the finite nature of services for purchasers, there is no enduring involvement in the product, only in the benefit.

The impact of service characteristics on the service quality is given below (Kasper et al., 2006):

- Inability to own a service prevents prior determination of service quality that will be provided.
- Intangibility prevents customer from being able to make comprehensive assessment of service before, during or after delivery. According to Trifa & McQuilken (2001), customer expectations for service quality do not vary with the level of intangibility of the service.
- Customer’s involvement in delivery process (inseparability) impacts both real
and perceived quality. As a general rule, more interaction between customers and the service organization improves quality, but this is dependent upon a range of issues such as clear communications, responsiveness to requests. Companies must learn to manage the interference of customers with their operations to deliver consistent quality at sustainable cost (Frei, 2006).

- Heterogeneity (variability) makes the definition and implementation of precise quality standards very difficult to achieve. The organizations should ensure that delivery falls within a boundary, i.e. there is a minimum level guaranteed and a maximum level manageable.

- Perishability of service may restrict its supply thereby putting staff under pressure. The fluctuations in supply, demand, as well as urgency will impact upon service quality.

Potential benefits of high quality service includes (Kasper et al., 2006):

- Creating competitive advantage by insulating customers from competitors
- Lowering customer recruitment costs
- Promoting positive word of mouth as customer talk about the service to others.
- Improved financial performance
- Reduced staff turnover

Based on the above discussion, the following managerial implications of service quality can be delineated:

- Collecting feedback from a high proportion of dissatisfied customers, who do not complain but also never use the service again.

- Quality costs money and there is a need to measure Return on Quality (ROQ) using measurable performance of service quality improvements relative to the investment made.

- Segmentation approach is too broad and the expectation variation within each segment too wide. There is need to identify neglected areas of service, which provide opportunities to positively surprise customers, thereby maintaining interest.
Competitor intelligence needs to be supplemented with customer research to provide quality service to the customers.

There needs to be trade-off between human and technology for providing service. The decision about the human technology mix must be dependent upon customers' reaction and the service dimensions they value.

3.2 Understanding Service Quality

Service marketing has emerged slowly as a sub-discipline of marketing. Fisk, Brown and Bitner (1993) labeled the pre-1980s as the “crawling out” period for services marketing. Earlier scholars sought to delineate services from goods and to understand management of the marketing of intangibles (Vargo et al., 2004). The service marketing literature has now reached maturity stage (Gabbott & Hogg, 1998; Furrer & Sollberger, 2004).

Much of the research in services marketing centers on understanding services and service quality from customer’s point of view (Brown & Bitner, 2006). The use of service quality as a competitive edge has been extensively addressed in marketing literature (Shostack, 1977; Lovelock, 1983; Gronroos, 1978, 2006; Parasuraman, Zeithaml & Berry, 1985, 1988, 1991, 1994A, 1994B; Bitner, Booms & Tetreault, 1990; Rust, Zahorik & Keiningham, 1995; Rust & Chung, 2006; Kasper et al., 2006). In this context, Table 3.1 gives a historical background of evolution of service quality research.
<table>
<thead>
<tr>
<th>Researcher(s)</th>
<th>Year</th>
<th>Publication</th>
<th>Title</th>
<th>Research Issue/Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rathmell</td>
<td>1966</td>
<td>Journal of Marketing</td>
<td>What is Meant by Services?</td>
<td>Presents early debate over the definition and classification of services - difficulty in conceptualizing products comprising both goods and services, the nature of service satisfaction and the goods – service continuum.</td>
</tr>
<tr>
<td>Levitt</td>
<td>1976</td>
<td>Harvard Business Review</td>
<td>The Industrialization of Service</td>
<td>Industrialization of service refers to increase the volume of service to a magnitude sufficient to achieve efficiency and to employ systems and technologies which produce reliable, rapid, and low-cost service results. Service industrialization requires a set of processes and management that is much different from that used in the functional production of goods.</td>
</tr>
<tr>
<td>Shostack</td>
<td>1977</td>
<td>Journal of Marketing</td>
<td>Breaking Free from Product Marketing</td>
<td>Marketing concepts that apply to products, are not applicable to services. Products are tangible; services are not-and that makes a lot of difference in how they are marketed.</td>
</tr>
<tr>
<td>Gronroos</td>
<td>1978</td>
<td>European Journal of Marketing</td>
<td>A Service-Orientated Approach to Marketing of Services</td>
<td></td>
</tr>
<tr>
<td>Shostack</td>
<td>1982</td>
<td>European Journal of Marketing</td>
<td>How to Design a Service</td>
<td>This article focuses on a service-oriented approach to marketing of services. The redefining of the product concept seems to be the only radical development of service marketing.</td>
</tr>
<tr>
<td>Shostack</td>
<td>1984</td>
<td>Harvard Business Review</td>
<td>Designing Services that Deliver</td>
<td>Modelling and blueprinting offer a system for marketers which can lead to the kind of experimentation and management necessary to service innovation and development.</td>
</tr>
<tr>
<td>Gronroos</td>
<td>1984</td>
<td>European Journal of Marketing</td>
<td>A Service Quality Model and its Marketing Implications</td>
<td></td>
</tr>
<tr>
<td>Parasuraman, Zeithaml and Berry</td>
<td>1985</td>
<td>Journal of Marketing</td>
<td>A Conceptual Model of Service Quality and Its Implications for Future Research</td>
<td>The consumer is not only interested in what he receives as an outcome of the production process (technical quality), but in the process itself (functional quality).</td>
</tr>
<tr>
<td>Parasuraman, Zeithaml and Berry</td>
<td>1988</td>
<td>Journal of Retailing</td>
<td>SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality</td>
<td>Established ten service quality determinants known as SERVQUAL (tangibles, reliability, responsiveness, communication, credibility, security, competence, courtesy, understanding/knowing the customer, and access.)</td>
</tr>
</tbody>
</table>

The paper describes the development and potential applications of a multiple-item instrument--called SERVQUAL--for measuring customer perceptions of service quality.
<table>
<thead>
<tr>
<th>Researcher(s)</th>
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<th>Publication</th>
<th>Title</th>
<th>Research Issue/Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zeithaml, Berry and Parasuraman</td>
<td>1988</td>
<td>Journal of Marketing</td>
<td>Communication and Control Processes in the Delivery of Service Quality.</td>
<td>Noted that firms not only have a difficult time delivering a consistent level of quality service, but had difficulty understanding what service quality really entails.</td>
</tr>
<tr>
<td>Bitner</td>
<td>1990</td>
<td>Journal of Marketing</td>
<td>Evaluating Service Encounters: The Effects of Physical Surroundings and Employee Responses</td>
<td>Presents a model for understanding service encounter evaluation that synthesizes consumer satisfaction, services marketing, and attribution theories. For consumers, evaluation of a service firm often depends on evaluation of the “service encounter” or the period of time when the customer interacts directly with the firm.</td>
</tr>
<tr>
<td>Berry, Zeithaml and Parasuraman</td>
<td>1990</td>
<td>Sloan Management Review</td>
<td>Five Imperatives for Improving Service Quality</td>
<td>Companies can provide consistently excellent service if managers provide the necessary leadership, remember that the sole judge of service quality is the customer, and implement “five service imperatives.”</td>
</tr>
<tr>
<td>Parasuraman, Berry and Zeithaml</td>
<td>1991</td>
<td>Journal of Retailing</td>
<td>Refinement and Reassessment of the SERVQUAL Scale</td>
<td>Discuss findings from a follow-up study in which SERVQUAL is refined and replicated it in five different customer samples. It also offer directions for future SERVQUAL research and applications.</td>
</tr>
<tr>
<td>Cronin and Taylor</td>
<td>1992</td>
<td>Journal of Marketing</td>
<td>Measuring service quality: A reexamination and extension</td>
<td>Found that perceptions of service quality more closely approach customer evaluations of services provided.</td>
</tr>
<tr>
<td>Bitner</td>
<td>1992</td>
<td>Journal of Marketing</td>
<td>Servicescapes: The Impact of Physical Surroundings on Customers and Employees</td>
<td>A typology of service organizations is presented and a conceptual framework is advanced for exploring the impact of physical surroundings on the behaviors of both customers and employees.</td>
</tr>
<tr>
<td>Teas</td>
<td>1993</td>
<td>Journal of Marketing</td>
<td>Expectations, performance evaluation, and consumers’ perceptions of quality.</td>
<td>Found interpretation of SERVQUAL expectations was flawed. Consequently, alternative perceived quality models that address the problems of the traditional framework are developed and empirically tested.</td>
</tr>
<tr>
<td>Parasuraman, Zeithaml and Berry</td>
<td>1994</td>
<td>Journal of Marketing</td>
<td>Reassessment of expectations as a comparison standard in measuring service quality: Implications for Further Research.</td>
<td>Research supports disconfirmation as valid since it allows service providers to establish gaps in provided service.</td>
</tr>
<tr>
<td>Cronin and Taylor</td>
<td>1994</td>
<td>Journal of Marketing</td>
<td>SERVPERF versus SERVQUAL: Reconciling performance-based and perceptions -minus-expectations</td>
<td>Found fault with SERVQUAL and developed SERVPERF based upon consumer satisfaction, which exerts stronger influence on purchase intentions.</td>
</tr>
<tr>
<td>Researcher(s)</td>
<td>Year</td>
<td>Publication</td>
<td>Title</td>
<td>Research Issue/Findings</td>
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<tr>
<td>Dabholkar, Thorpe and Rentz</td>
<td>1996</td>
<td>Journal of the Academy of Marketing Science</td>
<td>A Measure of Service Quality for Retail Stores: Scale Development and Validation</td>
<td>A hierarchical factor structure is proposed to capture dimensions important to retail customers based on the retail and service quality literatures as well as three separate qualitative studies.</td>
</tr>
<tr>
<td>Buttle</td>
<td>1996</td>
<td>European Journal of Marketing</td>
<td>SERVQUAL: Review, Critique, Research Agenda</td>
<td>Since its launch in 1985, SERVQUAL has become a widely adopted technology for measuring and managing service quality. Reviews a number of theoretical and operational concerns have been raised concerning SERVQUAL and proposes a research agenda.</td>
</tr>
<tr>
<td>Vargo and Lusch</td>
<td>2004</td>
<td>Journal of Marketing</td>
<td>Evolving to a New Dominant Logic for Marketing</td>
<td>Service Dominant Logic represents an inversion that places activities driven by specialized knowledge and skills, rather than units of output as the centre of exchange processes.</td>
</tr>
<tr>
<td>Rust, Lemon and Zeithaml</td>
<td>2004</td>
<td>Journal of Marketing</td>
<td>Return on Marketing: Using Customer Equity to Focus Marketing Strategy</td>
<td>Customer equity is the total of the discounted customer lifetime values summed over all the firm’s current and potential customers. The ultimate goal of the customer equity model is to link marketing actions to the firm’s financial return, making marketing a financially accountable investment.</td>
</tr>
<tr>
<td>Sawhney, Balasubramanian &amp; Krishnan</td>
<td>2004</td>
<td>Sloan Management Review</td>
<td>Creating Growth with Services</td>
<td>In a world of commoditized products, companies are turning to service offerings for growth. The key to success involves redefining markets in terms of customer activities and outcomes, not products and services.</td>
</tr>
<tr>
<td>Seth, Deshmukh and Vrat</td>
<td>2005</td>
<td>International Journal of Quality &amp; Reliability Management</td>
<td>Service quality models: a review</td>
<td>Service quality outcome and measurement is dependent on factors such as type of service setting, situation, time and need. Additionally, customer’s expectations toward service are also dependent on factors like time, increase in number of encounters with a particular service, competitive environment etc.</td>
</tr>
<tr>
<td>Bitner, Ostrom and Morgan</td>
<td>2007</td>
<td>Working Paper</td>
<td>Service Blueprinting: A Practical Tool for Service Innovation</td>
<td>Service Blueprinting has unrelenting focus on the customer as the center and foundation for innovation, service improvement, and experience design. Also provides a workshop guide for teaching blueprinting to executives as well as identified some key considerations that should be kept in mind when undertaking a blueprinting initiative.</td>
</tr>
</tbody>
</table>

*Source: Prepared by the Researcher*
Service quality has been at the centre of any discussion about service marketing management. The conceptualization of service quality, its relationship to satisfaction and measurement methods has been the central theme of literature on the subject. The pressures driving successful organizations toward top quality service make the measurement of service quality and its subsequent management of overall importance (Robledo, 2001; Harmon, Hensel & Lukes, 2006). Whilst there is general agreement that the evaluation of services is more subjective than tangible goods and, therefore, an understanding of consumers is central to understanding service quality, there has been less agreement about how to operationalise service quality as a construct. In fact, service quality remains illusive, difficult to define and measure (Cronin, Brady & Hult, 2000).

Rathmell (1966) initiated early debate over the definition and classification of services. He dealt with issues relating to difficulty in conceptualizing products comprising both goods and services, and the nature of service satisfaction and the goods – service continuum. Shostack (1977) attempted to differentiate services from the dominance of the product orientation. He suggested how marketers need to compensate for the problems presented by managing peripheral cues. Lovelock (1983) recognized the diversity between services and approaches the problem inductively by trying to establish commonalities across service products. Zeithaml, Parasuraman & Berry (1985) reports that discrepancy exists between the problems and strategies cited in the services marketing literature and those reported by actual service suppliers. Service marketing literature needs to recognize and analyze additional problem areas that may be particularly troublesome to service firms.

By concentrating upon the nature of the service act, the type of relationship, degree of customization, nature of demand and supply and finally delivery, Lovelock (1983) explored a series of sub-questions through ‘insights and implications’ structure. While Gronroos (1978) provided insights from services companies as to how the marketing mix is planned and applied bearing in mind the characteristics of the service product. The article presented three dimensions – importance of accessibility, the human element in service delivery and the provision of auxiliary (or augmented) service offerings – which the author believes are central to the development of contextualized marketing mix. Zeithaml (1981) attempted to explain
some inherent differences in how consumers use and evaluate services as opposed to physical products. He argued that characteristics of services suggest that they are high in experience and credence qualities but low in search qualities representing an increased difficulty for consumers in evaluation.

Parasuraman et al. (1988) provided the notion of ‘gaps’ between the expectations of service and subsequent perceptions of what is delivered. They opined that these gaps are located throughout the organization between frontline staff, customers and managers. The identification of ten dimensions of service quality, identified by these researchers, and later refined to five – reliability, assurance, tangibles, empathy and responsiveness (RATER) – has dominated the literature in the field of service quality. Much of the research in this area, since introduction of SERVQUAL in 1988, has been concerned with validating or challenging the construct. Cronin et al., (1992) argues the performance based measures and presents another scale i.e. SERVPERF scale. Teas (1993) questioned the conceptual and operational validity of the perceptions minus expectations framework which were responded by Parasuraman et al. (1994b). While, Buttle’s (1996) review of SERVQUAL concentrates on systematically examining the theoretical, operational and statistical criticisms of the SERVQUAL scale and raises a number of directions for future research in the area of service quality measurement.

Another thought is that of Service Dominant Logic (Vargo et al., 2004; Lusch and Vargo, 2006) that places activities driven by specialized knowledge and skills, rather than units of output, at the center of exchange processes. The logic specifies that it is service that is exchanged for service. The following eight Foundational Premises (FP) summarize S-D logic:

FP1. The application of specialized skill(s) and knowledge is the fundamental unit of exchange (Service is exchanged for service)
FP2. Indirect exchange masks the fundamental unit of exchange
FP3. Goods are distribution mechanisms for service provision
FP4. Knowledge is the fundamental source of competitive advantage
FP5. All economies are service economies
FP6. The customer is always a co-creator of value
FP7. The enterprise can only make value propositions
FP8. A service-centered view is customer oriented and relational

It can be seen that service quality has become a major area of attention to practitioners, managers and researchers owing to its impact on business performance, customer satisfaction, loyalty and profitability (Cronin et al., 1992, Seth et al., 2005).

3.3 Service Quality and Customer Satisfaction

Customers have a difficult time in attempting to determine service quality based upon objectivity and as a result need some structured effort on the part of the service provider to plan the service function (Shostack, 1985). Boulding, Kalra, Staelin & Zeithaml, (1993) noted that service quality and customer satisfaction were treated as one and the same by the business press. They indicated that this should be a dynamic process model to examine the subject from expectations to behavioral intentions. Ueltschy, Laroche, Tamilia & Yannopoulos (2004) found that some measures of satisfaction and service quality are non-equivalent across cultures.

There has been a substantial amount of posturing in the literature as to whether both constructs (satisfaction/dissatisfaction and service quality) are truly attitudes. Bitner (1990) viewed satisfaction/dissatisfaction as an episodic, transaction-specific measure. Bitner and Hubbert (1994) subsequently raised the question whether or not service quality and customer satisfaction is distinguishable from the customer's perspective. However, studies by Cronin et al. (1992) treat satisfaction/dissatisfaction as a cumulative rather than a discrete measure. It became obvious that satisfaction/dissatisfaction had to be separated into two distinct types based on a given service encounter or a total service experience.

Parasuraman et al. (1988) described service quality as "similar in many ways to an attitude" developed over all encounters with the service providing firm. Cronin et al. (1992) found that there is a major problem when service quality is not termed an attitude. They saw a significant problem when the disconfirmation paradigm is used to measure perceptions in service quality, and it has also been used to distinguish customer satisfaction from service quality. This was identified as an inconsistent
approach with the differentiation noted between these constructs in the satisfaction and attitude literature.

A set of definitions to clarify the different types of evaluation methods was proposed by Bitner et al. (1994). They noted and established conceptual links between satisfaction in single service encounter, satisfaction with the entire service experience, and service quality. Consistently good service mitigates one single episode of poor service, and as a result would not significantly impact overall satisfaction. Conversely, negative information from some credible source may cause the customer to evaluate service quality less favorably, even though the past experiences have been very satisfying. Anderson, Fornell & Lehmann (1994) investigated the relationship between customer satisfaction, market share and profitability and found that market’s expectations of the quality of a firm’s output positively affects customers’ overall satisfaction with the firm, which leads to economic benefits.

From these studies, it is implied that service quality is an input and customer satisfaction is an output. It is reasonable to conclude that there is a consensus among the various researchers that while service quality and customer satisfaction are two different constructs they can still have common indicators. Likewise, there is agreement in the research literature that both service quality and customer satisfaction have an influence on customer loyalty (Bloemer, Ruyter & Wetzels, 1999).

3.4 Models of Service Quality

A conceptual model is a simplified description of the relationship that exist between latent and observed variables. It is envisaged that conceptual models in service quality enable management to identify quality problems and thus help in planning for the launch of a quality improvement program thereby improving the efficiency, profitability and overall performance (Garver, 2003; Seth et al., 2005). The study examines eight different service quality models reported in the literature. The critical review of the different service quality models (SQM) is intended to derive linkage between them and highlight the area for further research.
3.4.1 SQM 1. The Disconfirmation Model of Service Quality

The model is based on the early studies of Oliver (1997) and Olshavsky and Miller (1972). It provides a customer referenced method for assessing service quality. In this model quality is implied if the customers’ expectations of the service experience beforehand are exceeded by the service when it is delivered. Expectations and subsequent performance are fundamental to conceptualization of service quality.

Customer’s service expectations exist at two different levels: a desired level and an adequate level. The difference between the desired and adequate service level is zone of tolerance. Considerable variation in customers’ tolerance zones are found between various services, between various service attributes and also between events. The formation of expectations (Exhibit 3.1) involves individual expectation drivers (enduring service intensifiers, transitory service intensifiers and situational factors) and environmental expectation drivers (explicit service promises, implicit service promises and social information sources). The formation of expectations is particularly complex and almost impossible to manage from the organisation’s perspectives.

Exhibit 3.1 Determinants of Zone of Tolerance

![Diagram showing Individual and Environmental expectation drivers leading to Desired Service, Zone of Tolerance, and Adequate Service]


The second part of the disconfirmation approach is making an assessment of what is actually received or experienced. The problem with performance from the customer’s point of view is that it all depends upon the individual’s perception. Individuals react differently to different things according to their needs, their personality and their perception of events.
A customer derived quality assessment will depend upon a comparison of expectations relative to performance. When expectations are exceeded \((E < P)\), the outcome is beyond satisfaction and closer to customer delight. Perceived service quality is high. When expectations are not met \((E > P)\), perceived service quality is low and the organization would expect to have a dissatisfied customer. When expectations are met \((E = P)\), the customer will assess the quality of service based on the level of expectation. Expectation contains both adequate and desired components. Adequate expectations, if confirmed through experience, don’t mean satisfaction, just confirmation. By contrast, desired expectations, if disappointed, means dissatisfaction. Hence the poor service expected and poor service delivered does not necessarily mean satisfaction.

Disconfirmation has had a huge impact upon service quality and has been subject to a series of refinements.

### 3.4.2 SQM2. Nordic Service Quality Model

Grönroos (1978) identified that services are not one big amorphous event but comprise of different components – technical quality and functional quality – which interact to determine overall quality.

**Technical quality** refers to a dimension, which describes what the customer gets as the outcome of their interaction with the organization. For instance, a hotel service provides a room and a bed, an airline provides transportation to a destination. Quality of service varies according to the outcome received.

**Functional quality** refers to a dimension, which describes the process by which the technical quality is delivered to the customer. This includes the demeanour of the service provider, the environment in which it is delivered and the behaviour of other customers.

An acceptable technical quality is a pre-requisite for a successful functional quality. On the other hand, temporary problems with the technical quality may be excused if the functional quality is good enough (Gronroos, 1982). According to Kang (2006),
a two component model yields better fit than a model concentrating on functional quality alone.

**Exhibit 3.2: Grönroos Quality Model**

<table>
<thead>
<tr>
<th>Expected service</th>
<th>Perceived service quality</th>
<th>Perceived service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Image</td>
<td></td>
<td></td>
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<tr>
<td>Technical solutions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer contacts</td>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Machines</td>
<td>Behaviour</td>
<td>Internal relations</td>
</tr>
<tr>
<td>Technical Quality</td>
<td>Attitudes</td>
<td>Accessibility</td>
</tr>
<tr>
<td>Computer systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know-how</td>
<td></td>
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</tbody>
</table>


### 3.4.3 SQM 3. Kano's Model of Customer Satisfaction

It provides a useful structure for critical analysis of the proposed features of the product. According to this model quality elements can be classified into three categories, namely Must-be, One-dimensional and Attractive needs, depending on their ability to create customer satisfaction or dissatisfaction.

**The Must-Be or Basic Requirements (Needs):** For these needs, customers will be extremely dissatisfied if these requirements are not fulfilled. However, customer satisfaction does not rise above natural even with a high performance. Fulfilling the must-be needs will only lead to "not dissatisfied". In other words, customer takes these requirements for granted and regards them as prerequisites. For example, in an organisation when average punctuality exceeds a certain level there is no increase in customer satisfaction. But if punctuality does not meet customers’ expectation it causes a high level of dissatisfaction.

**The One-Dimensional Requirements (Needs):** For these needs, customer satisfaction is proportional to the level of fulfillment- the higher the level of
fulfillment, the higher the customer's satisfaction. In other words, customer satisfaction is a linear function of the performance of the product/service attribute. For example, larger sale discounts normally result in higher customer satisfaction, which also explains why low fares provided by low cost carriers are so popular.

**The Attractive or Excitement Requirements (Needs):** These needs are not explicitly expressed or expected by customers. Fulfilling these requirements leads to more than proportional satisfaction. Yet there is not a corresponding decrease in customer satisfaction if these needs are not met. For example, Kingfisher Airlines offer pick-up and drop facility to business travels who otherwise have to make alternate travel arrangements. Yet the absence of this service will not necessarily result in customer dissatisfaction or loss of passengers.

The most important contribution of Kano model is that it allowed us to see how it may not be enough to merely satisfy customers by meeting their basic and one-dimensional needs. In a highly competitive marketplace, organizations need to adopt strategies and to create product attributes targeted specifically at existing customers and over-satisfying them (Tan and Pawitra, 2001). The other implication of Kano model discussed by Shen, Tan & Xie, (2000) is the importance of timely and continual development, and introduction of products with innovative and novel attributes. Kano's model posited that attributes that had once been attractive, over time, become one-dimensional. With further time, they are taken for granted and fall into the category of meeting only the basic needs.

According to Matzler & Hinterhuber (1998), the other potential benefit of Kano's model is that it provides valuable guidance in the trade-off situation. If two product attributes cannot be promoted simultaneously due to technical or financial reasons, the attribute that has greater influence on customer satisfaction can be determined. Positioning of service elements, which distinguishes the different types of service elements, can be used as one tool in designing the most effective customer strategy (Huiskonen and Pirttila, 1998).

Yueh – Ling, Chao-Che & Pei-Chi (2007) has applied Kano's model to Taiwanese airline industry in order to better understand airline service quality and strategy
planning, Kano’s model is used to analyze what drives passengers’ satisfaction and dissatisfaction in the airline industry.

![Image: The Kano Model](image)

**Exhibit 3.3: The Kano Model**

Delight

Immediate happiness

Not unhappy

Disappointed

**Customer Satisfaction**

Excitement needs or Delighters

“Performance” needs

“Basic” needs, or “hygiene” factors

Degree of Implementation

Poor

Good


3.4.4 SQM 4. The Gaps Model of Service Quality

When providers fairly address the people, outputs and processes in service transactions, expectations are more likely to be met. Disappointment and disconfirmation resulting from gaps in performance expectations can lead to non-attractive defection and lost profits (Severt, 2002). Parasuraman *et al.* (1985) developed a model which depicts how various gaps in the service process may affect the customer’s assessment of the quality of the service. The model takes into account disconfirmation and different service attributes and links them together with management activity through a gap framework. The foundation of the model (see Exhibit 3.5) is a set of four gaps which are the major contributors to the service quality gap which customers may perceive:

**Gap 1 (Consumer Expectation – Management Perception Gap):** In formulating its service delivery policy, management does not correctly perceive or interpret consumer expectation (Libonati, 1992).
Management does not correctly translate the service policy into rules and guidelines for employees.

Gap 3 (Service Quality specification – service delivery Gap): Employees do not correctly translate rules and guidelines into action.

Gap 4 (Service Delivery – External Communications Gap): External communications – promises made to customers – do not match the actual service delivery.

These four gaps emerge from an executive perspective on a service organization’s design, marketing and delivery of services. These gaps are located throughout the organization between frontline staff, customers and managers. They, in turn, contribute to another gap, i.e. gap 5, which is the discrepancy between customers’ expected services and the perceived service actually delivered. This gap is a function of the other four gaps: i.e. Gap 5 = f(gaps 1, 2, 3, 4).

It is this gap that Parasuraman et al. (1985) sought to measure using the SERVQUAL instrument. It consists of 22 items divided along the 5 dimensions, with a seven-point scale accompanying each statement to test the strength of relations. These 22 items are used to represent five dimensions viz. reliability, responsiveness, tangibles, assurance and empathy (RATER). The instrument empirically relies on the difference in scores between expectations and perceived performance. Mathematically, the same may be expressed as:

\[ SQ_i = \sum_{j=1}^{k} (P_{ij} - E_{ij}) \]

where,

- \( SQ_i \) = Perceived service quality of individual ‘i’
- \( k \) = Number of service attributes / items
- \( P \) = Service quality perception of individual ‘i’ for service attribute ‘j’
- \( E \) = Service quality expectation of individual ‘i’ for service attribute ‘j’
3.4.5 **SQM 5. Performance only Model of Service Quality**

A variant of SERVQUAL scale, SERVPERF scale contains perceived performance component only. A higher perceived performance implies higher service quality. Cronin *et al.* (1992) investigated the conceptualization and measurement of service quality and its relationship with consumer satisfaction and purchase intentions. They compared computed difference scores with perception to conclude that perceptions...
only are better predictor of service quality. In an equation form, it can be expressed as follows:

\[
SQ_i = \sum_{j=1}^{k} P_{ij}
\]

where,

- \( SQ_i \) = Perceived service quality of individual ‘i’
- \( k \) = Number of service attributes / items
- \( P \) = Service quality perception of individual ‘i’ for service attribute ‘j’

### 3.4.6 SQM 6. Six-Sigma Model of Service Quality

Six Sigma is a sophisticated quality program created by Motorola in the 1980's and popularized by the success of General Electric. The initiative is a highly involved measurement device of production defects per one million operations. While it was originally intended to serve as a manufacturing process, several top companies have transitioned its role to focus on virtually all service-related transactions. It is an organizational change model driven by customer demand. Often referred to as "transactional Six Sigma," the methodology is proving to be a useful tool in environments that focus more on people and less on product. Using Six Sigma's define-measure-analyze-improve-control method, a service company can implement quality:

**Define.** Because Six Sigma is aimed at reducing defects, the first step is to figure out what a defect would be. For example, the company may decide that leaving streaks on the windows is a defect because it is a source of customer dissatisfaction.

**Measure.** The next step is to collect data to find out why, how, and how often this defect occurs. This might include a process flow map of where employees start and finish the job. Other metrics may include recording what products and tools the employees use to carry out the job.
Analyze. After the data is measured, the company's Six Sigma team realizes that a particular employee is better at a particular job than the other employees.

Improve. The team implements that employee's process as a standard way of carrying out the job.

Control. The company teaches new employees the correct technique to wash the windows. Over time, there's significant improvement in customer satisfaction and increased business.

It may have taken the Six Sigma team one or two brainstorming sessions to clearly define its process, but the DMIAC model remains the same for service industry as it is for manufacturing industry.

3.4.7 SQM7. Internal Service Quality Model

Customer service quality evaluations are based almost entirely upon the behaviour of front-line employees (Farrell, Souchon & Durden, 2001) The model, based on GAP model (Parasuraman et al., 1985) evaluates the dimensions and their relationships that determine service quality among internal customers (front-line staff) and internal suppliers (support staff) within a large service organization (Frost and Kumar, 2000).

Internal gap 1 shows the difference in support staff’s perception of front-line staff’s expectation. Internal gap 2 is the significant difference between service quality specifications and the service actually delivered resulting in an internal service performance gap. Internal gap 3 focuses on front-line staff and measures the difference between front-line staff’s expectations and perceptions of support staff’s service quality.
3.4.8 SQM 8. Customer Equity Framework

The model provides an information-based, customer-driven, competitor-cognizant, and financially accountable strategic approach to maximizing the firm’s long-term profitability. Customer equity projections are built from a new model of Customer Life-Time Value (CLV)—which permits the modeling of competitive effects and brand switching patterns.

Customer equity is the total of the discounted customer lifetime values summed over all the firm’s current and potential customers (Blattberg & Deighton, 1996; Rust, Zeithaml & Lemon, 2004; Rust et al. 2004; Rust, Lemon & Zeithaml, 2006). The ultimate goal of the customer equity model is to link marketing actions to the firm’s financial return, making marketing a financially accountable investment. Customers’ lifetime values to the firm mediate the relationship between strategic actions and Return on Investment (ROI). The chain of effects behind this approach (Exhibit 3.3) is the following:

1. Marketing investments produce improvements in drivers of customer equity (value equity, brand equity and relationship equity),
2. Improvements in these drivers lead to improvement in customers' perceptions and enhance customer attraction and retention,

3. Attraction of new customers and retention of current customers increase customer equity, and

4. Increased customer equity, relative to cost of marketing actions, results in favorable returns on investment.

The review of these eight service quality models highlighted various issues, debates, strengths and weaknesses pertaining to the model. General service quality models
have been developed based on different types of service encounters. The models have been refined based on new situations or new models have evolved out of weaknesses / learning from the existing models. None of the models currently satisfies the set framework (Seth et al., 2005), thus highlighting the need for further research.

3.5 Dimensions of Service Quality

After a thorough examination of the research in the areas of service quality and customer satisfaction, it would be appropriate to examine the variables that impact the measurement of service quality. The literature review points to SERVQUAL developed by Parasuraman et al. (1988) as the primary measuring device that can be modified to predict customer perceptions against expectations and the comparison of those perceptions and expectations against the service provider perceptions of what it will require to satisfy the customers' service needs. Based upon SERVQUAL as a measurement device, the Chapter looks at the dimensions in measuring service quality, the SERVQUAL model, the use of the SERVQUAL model to evaluate service quality, and the validity of SERVQUAL in the measurement of service quality.

Service quality dimensions are those attributes which contribute to consumer expectations and perceptions of service quality. These are the attributes of the service that are important to the customer and contribute significantly to their quality assessment. Knowledge of these dimensions and, possibly, the ability to measure them can help to yield an insight into more effective ways of improving service quality.

In the initial research relating to SERVQUAL, Parasuraman et al. (1985) established ten dimensions for measuring service quality. Those original dimensions were tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding the customer. This ten-dimension breakthrough approach to measuring service quality was criticized by Cronin et al. (1992) who not only disagreed with the measurement issue, but also criticized the conceptualization of SERVQUAL. They opined that the perceptions aspect of
SERVQUAL was a much better measurement device than SERVQUAL itself.

Parasuraman, et al. (1991) revised their SERVQUAL instrument by conducting a new study, which in its refined form changed some scale measurement elements and changed wording relating to those scales. They provided a direct measurement relating to the importance of each dimension reported by the respondents. After substantial research and an evaluation of various critical reviews of SERVQUAL, the modified dimensions as defined in Table 3.2 are tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1988 and 1994a; Sachdev & Verma, 2004; Shahin, 2005).

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Definition</th>
</tr>
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<tbody>
<tr>
<td>Tangibles</td>
<td>Appearance of physical facilities, equipment, personnel, and communication materials.</td>
</tr>
<tr>
<td>Reliability</td>
<td>Ability to perform the promised service dependably and accurately.</td>
</tr>
<tr>
<td>Responsiveness</td>
<td>Willingness to help customers and provide prompt service.</td>
</tr>
<tr>
<td>Assurance</td>
<td>Knowledge and courtesy of employees and their ability to convey trust and confidence.</td>
</tr>
<tr>
<td>Empathy</td>
<td>Caring, individualized attention the firm provides its customers.</td>
</tr>
</tbody>
</table>


The instrument has been further developed and promoted through a series of publications (Parasuraman et al., 1988; 1991, 1994a, 1994b; Zeithaml et al., 2003). Much of the research in this area since then has been concerned with validating or challenging the construct (Cronin et al., 1992; Babakus & Boller, 1992; Teas, 1993; Smith, 1995; Buttle, 1996; Genestre & Herbig, 1996; Asubonteng McCleary & Swan, 1996; Nel, Pitt & Berthon, 1997; Llosa, Chandon & Orsingher, 1998; Hussey, 1999; Brady, Cronin & Brand, 2002; Myerscough, 2002; Nyeck, Morales, Ladhari & Pons, 2002; Lai, Hutchinson, Li & Bai, 2007) and suitability of SERVQUAL vs SERVPERF scale (Cronin et al., 1994; Elliot, 1994; Jain & Gupta, 2004; Johns, Avci & Karatepe, 2004). Carrillat, Jaramillo and Mulki (2007), in a meta-analytic investigation of 17 years of research across five continents, conclude that SERVQUAL and SERVPERF are equally valid predictors of overall service quality. Adapting SERVQUAL scale to measurement context improves its predictive validity (Prayag, 2007).
The five dimensions of service quality have dominated the literature in the field of service quality. There are now over 5500 research articles on this model (Kasper et al., 2006). According to EBSCO database (24 August’ 08), SERVQUAL as a keyword is appearing in 114 publications. The development of SERVQUAL by Parasuraman et al. (1988) as a generalisable measure of service quality was a seminal contribution that has been adapted and widely used across industries around the world (Dabholkar et al., 1996). Major published studies include Banking (Lassar, Manolis & Winsor, 2000; Arasli, Katircioglu & Mehtap-Smadi, 2005; Bexley, 2005; Mukherjee & Nath, 2005; Baumann, Burton, Elliott & Kehr, 2007; Aga & Safakli, 2007), Education (Arambewela & Hall, 2006; Smith, G., Smith, A. & Clarke, 2007), Health (Lam, 1997; Desombre & Eccles, 1998; Kilbourne, Duffy, J.A., Duffy, M. and Giarchi, 2004; Pakdil & Harwood, 2005; Jabnoun & Rasasi, 2005; Mostafa, 2005), Hotel (Ingram & Daskalakis, 1999; Winsted, 2000; Antony, J., Antony, F.J. & Ghosh, 2004; Juwaheer, 2004), Information System & E-Commerce (vanDyke, Kappelman & Prybutok, 1997; Cook & Thompson, 2000; Jiang, Klein & Carr, 2002; Kang & Bradley, 2002; vanRiel & Semeijn, 2003), Internal Marketing (Frost & Kumar, 2000, 2001; Straughan & Cooper, 2002), Public Services (Orwig, Pearson & Cochran, 1997; Donnelly & Shiu, 1999; Wisniewski, 2001; Brysland & Curry, 2001; Donnelly, Kerr, Rimmer & Shiu, 2006), Retail (Carman, 1990; Finn, Lamb & Charles, 1991; Dabholkar et al., 1996; Zhao, Bai & Hui, 2002) and Tourism & Hospitality (Saleh & Ryan, 1991; Fick & Ritchie, 1991; Augustyn & Ho, 1998; Ryan & Cessford, 2003; Kouthouris & Alexandris, 2005; Home, Peter & Pikkemaat, 2005), Transportation (Crosby & LeMay, 1998; Mehta & Durvasula, 1998; Durvasula, Lysonski & Mehta, 1999; Shaineshe & Mathur, 2000; Cavana, Corbett & Lo, 2007).

3.6 Service Quality in Airline Industry

The airline industry is inherently unstable (Dogannis, 2006) and highly competitive, where all airlines have comparable fares and matching frequent flyer programs. In such a scenario, service quality is a significant driver of passenger satisfaction, loyalty and choice of airline (Sultan and Simpson, 2000; Zins, 2001; Chang et al., 2002; Gilbert & Wong, 2003; Rust, Lemon & Zeithaml, 2006).
Continued liberalisation and ‘open skies’, the impact of global alliances, new low-cost, no-frills carriers, on-line ticket selling, and privatisation of state-owned airlines are some of the crucial developments that have been impacting on airline business at a time of continually falling average fares and yields (Teodorovic, Popovic, Pavkovic & Kikuchi, 2002; Morrish & Hamilton, 2002; Iatrou & Alamdari, 2005). Increasing competition from low cost, low fare carriers is one of the fundamental challenges being faced by the traditional full service carriers (Chen, Gupta & Rom, 1994; Cerasani, 2002; Gillen & Morrison, 2002; Sayanak, 2003; Franke 2004; Cary, 2004; O’Connell & Williams, 2005; Harrington, Lawton & Rajwani, 2005; Pant, 2006) and it has also led to reduction in average quality of service provided to the customer (Trapani & Olson, 1982; Bhatt, 1997; Chan, 2000a; Butler, 2001; Servitopoulos, 2002; Mazzeo, 2003; Morrison, 2004; Manuela, 2007). Airline industry faces service quality failures on regular basis (Bamford & Xystouri, 2005; Waguespack, 2007) and passenger hardships have increased after September 11, 2001 terrorist attacks (Leone & Liu, 2003; Gkritza, Niemeier & Mannering, 2006).

Airlines need to have valid and reliable measures for a better understanding of the variables likely to impact the perception of service quality being offered by them. They need to measure not only customer perceptions but also expectations of airline passengers. If significant variations are found in the perceptions of airline passengers’ vis-à-vis service quality on the different flights, changes in the marketing mix need to be implemented to improve the perception of quality. Benchmarking is the most used performance improvement technique for airlines (Fry, Humphreys & Francis, 2005).

Several papers (Gourdin & Kloppenborg, 1991; Ostrowski, O'Brien & Gordon, 1993; Young, Cunningham, & Moonkyu, 1994; Truitt & Haynes, 1994; Bejou & Palmer, 1998; Gustafsson, Ekdahl & Edvardsson, 1999; Sultan et al., 2000; Chang et al., 2002; Tsaur, Chang & Yena, 2002; Gilbert et al., 2003; Alter, 2003; Kozak, Karatepe & Avci, 2003; Boland, Morrison & O’Neill, 2003; Natalisa & Subroto, 2003; Scheraga, 2004; Karankitikorn, 2004; Heracleous, Wirtz, & Johnston, 2004; Bel, 2005; Ling, Lin & Lu, 2005; Gursoy, Chen & Kim, 2005; Knibb, 2005; Rhoades & Waguespack, 2005; Anitsal & Paige, 2006; Hunter, 2006; Pham, 2006; Pham & Simpson, 2006; Park, Robertson & Wu, 2005, 2006; Sim, Koh & Shetty,
2006; Venkatesh & Nargundkar, 2006; Chitnis, 2007; Pakdil & Aydin, 2007; Liou & Tzeng, 2007; Khan, Dutt & Bansal, 2007a & 2007c) have been written during the past few years examining the service quality of airline industry. These papers focus primarily on measuring the performance of airlines using SERVQUAL instrument

Chang, Lim, Jean, Ji & Seo (2002) carried out comparative study of relevance of SERVQUAL and SERVPERF scales to airline industry. In their opinion, SERVQUAL model is more appropriate for airline service industry than SERVPERF. Cunningham, Young & Lee (2002) compares U.S. and Korean customers in terms of their perceptions of airline service quality based on SERVPERF, as well as their perceptions of risks involved in the airline choice. Chenet, Tynan and Money (2000) proposes an alternative model, which shows that service performance gap is influenced both directly and indirectly by a number of critical factors including trust, commitment and co-operation.

Air Travel Consumer Report (ATSR), published monthly by US Government of Transportation, provides statistics for on-time performance, mishandled baggage, denied boardings, customer complaints and cancellation by US airlines (Rhoades et al., 2008). Airline Quality Rating (AQR), that takes in to account 12 customer complaint categories, is being published annually in US since 1991 (Headley and Bowen, 1997; Bowen et al., 2007). Considerable difference due to contextual factors exists in the performance levels between airlines (Williams, 2005). Gardner (2004) carried out a dimensional analysis of airline quality based on on-time arrivals, denied boardings, mishandled baggage and customer complaints, which is in conflict with the results of AQR 2004.

Kim & Prideaux (2003) examines cross cultural differences in satisfaction among airline passengers from flight attendants’ perspective. Westwood, Pritchard & Morgan (2000) concludes that airline industry needs to address its currently male-oriented service attitudes and facility provision if it is to more effectively cater for businesswomen. Lillis & Abernethy (2002) develops a framework for identifying the primary drivers of the costs of being customer responsive. It aims to develop an understanding of the causal drivers of the costs of responsiveness.
Post-deregulation, marketing practice is competitively evolving as airlines seek to be more effective, efficient and profitable (Glisson, Cunningham, Harris & Lorenzo-Aiss, 1996; Driver, 1999, 2001). Frequent Flyer Program (FFP) is an effective marketing technique in the airline industry with positive implications for the financial performance of the carriers involved and their strategic alliance partners (Sharp, B. & Sharp, A., 1997; Yang & Liu, 2003; Suzuki, 2003; Goel, 2003). A judicious blending of conventional marketing and superior customer service is the best recipe for sustained market success (Parasuraman 2000; Santala & Parvinen, 2007). Strategic alliances among airlines are common in the aviation industry and are seen as a response of airlines to changing economic and regulatory conditions (Albers, Koch & Ruff, 2005). There are five key consumer benefits of global alliances to consumers: wider network access; seamless travel; extended lounge access; transferable priority status; and enhanced FFP benefits (Goh & Uncle, 2003). These benefits are seen as highly attractive for business and executive air travellers.

Researchers have employed Structural Equation Modelling (SEM) to investigate the effects of individual dimensions of airline service quality (Cezard, 1999; Pong & Yee, 2001; Kalamas, Laroche & Cezard, 2002; Saurina & Coenders, 2002; Park et al., 2005, 2006; Ling et al., 2005; Cassab & MacLachlan, 2006). Chang & Yeh (2001) suggested a multiattribute decision making model to measure and compare overall competitiveness of airlines on five dimensions and their associated objective performance measures. Danaher (1997) employed a method based on conjoint analysis to determine the relative importance of service attributes measured in airline customer satisfaction surveys.

Some other recent studies carried out across the world on airline service quality are given below:

United States: Deregulation of US airline industry has led to changes in route structures, airfares, service quality and barriers to entry (Bhat, 1995; Anderson & John, 1999; Rhoades & Waguespack, 1999; Burghouwt & Hakfoort, 2001; Schnell, 2004). There is a general consensus that levels of service quality have declined significantly since deregulation (Servitopoulos, 2002; Rhoades & Waguespack, 2008). Cerasani (2002) explored the market structure of the US airline industry and
the barriers to entry that a new carrier must overcome in order to enter the industry. It then examined the possible entry strategies of a new carrier with a specific emphasis on Southwest Airlines. Lee & Luengo-Prado (2004) investigates the difference in service quality among two major US full service carriers.

Madanoglu, Chang & Chu (2004) carried out an Economic Value Analysis (EVA) to demonstrate that during the period 1990 – 1999, airline industry failed to benefit from prospering US economy. EVA is a residual income that subtracts the cost of capital from the operating profits generated by a business (Banerjee, 2000). Sayanak (2003) has examined the performance of low cost carriers in comparison with the other major carriers in USA. It uses economic variables, airport characteristics, weather variables and logistic variables to determine the effects on on-time performance of LCCs and major carriers. It concludes that better LCC performance is due to fewer flight cancellations and higher on-time arrival rates.

**Europe:** Travis (2001) explained the liberalisation of European air transport (United Kingdom, France, Germany, and the European Commission) based on game theory, in combination with process tracing. It found that legal framework was vital to the process of integration. European airlines face greater competition from alternative transportation, notably the high speed train due to shorter distance between major agglomerations (Giaume & Guillou, 2004; Eisenkopf, 2005). Huettinger (2006) provides the operating strategy of Air Baltic and its relation towards the extension policy of Scandinavian Airlines. Jarach (2004) analyze the new market scenario for European Airline Industry in face of macro-economic turmoil like September 11, 2001, consequent economic recession, terrorism, SARS and industry-related changes like growth of LCCs. Piga, Filippi & Bachis (2001) assess the effectiveness of European LCCs distribution strategies. These LCCs are limited to a market, blocked by fewer routes and lower traffic than their U.S. counterparts (Binggeli & Pompeo, 2002). Atalik (2007) identifies five categories of complaints – availability of free tickets and upgrades, staff behaviour, card ownership issues, priority issues and lack of alliances with other airlines – made by the Turkish frequent flyers. Tieman, Rhoades & Waguespack (2008) compares consumer perceptions of airline service quality indicators - on time flight arrivals, baggage reports and flight cancellations -
with data reported by Department of Transportation, in the USA and the Association of European Airlines Airlines (AEA) in the EU.

**Asia:** Asian airlines have embraced initiatives of total quality management (Chia & Phau, 1999). Singapore Airlines is consistently recognized as the world’s best, and also one of the most profitable airline (Strategic Direction, 2003, 2004; Wirtz & Johnston, 2003, 2004). Singapore Airlines has won 2007 & 2008 Airline of the Year title awarded by Skytrax (Miller, 2008). Ahmed, Zairi & Almarri (2006) carried out the SWOT analysis of Air China and identifies the factors that play key role in implementing TQM successfully in Air China. Alam & Karim (1998) develops models for predicting air travel demand in Bangladesh. Zaid (1995) describes the various methods in place by Malaysia Airlines to get feedback – how service quality is measured and monitored – in order to ensure that quality is maintained. Oyewole, Sankaran & Choudhury (2007) found that ICT, reservation procedures, in-flight services, company image and customer complaint handling influence customer satisfaction in Malaysian setting. Yi (2006) predicts that Asian LCCs are unlikely to pose a serious competitive threat to existing FSCs that cater mainly to long-haul routes and a different set of clientele.

**Africa:** Vermooten (2005) deals with the specific commercial practices adopted by airlines in the deregulated South African domestic air transport market for passengers as well as the use of a combination of commercial practices in a predatory manner.

### 3.7 Role of IT in Service Delivery

Information and Communication Technology (ICT) have revolutionised the entire business world. Airlines have been early adopters of ICT and have a long history of technological innovation (Lewis, Semeijn & Talalayevsky, 1998; Feldman, 2001; Gareiss, 2001, 2003; Kelemen, 2003; Botha, 2004; Buhalis, 2004; Ghobrial *et al.*, 2005). Computer Reservation Systems (CRS) or Global Distribution Systems (GDS) have been among the first international inter-organisational systems (Werthner & Klein, 1999). Commercial airlines began using CRS technology in the mid-1970's.
Starting from an electromechanical base, the airline reservation systems evolved along with the computer and air transport industries (Copeland & McKenney, 1988). CRS technology has had a dramatic economic impact on the airline industry (Locke, 1989). Airlines have appropriated the benefits of computerized reservation systems, turning them into highly specialized assets for further travel related innovation (Duliba, Kauffman and Lucas, 2001). Airline ticket reservations can now be made and paid for either through internet or even mobile phones. Airlines are offering check-in via mobile phones; deploying IT based solutions to streamline baggage and airport management services, and in-flight e-mail services (Sheng, Nah and Siau, 2005; Baker, 2007). According to SITA (2008) survey, airlines expect mobile check-in to be used by 10% of passengers by 2009.

The travel industry as a whole has been in a constant state of change from the mid-nineties through 2002. This flux has been accelerated due to the tragedy associated with September 11, 2001, economic disruption, and the ever-increasing influence of the Internet (Smith and Rupp, 2004). There appears to be a trend towards the extension and consolidation of strategic alliances, structural and operational reorganization, and the application of new technologies (Czipura & Jolly, 2007; Sadi and Henderson, 2000). Cost pressures, changing customer demands and new technology are heralding a new era in airline ticketing. Travel agents, who currently account for 80 to 85 percent of all ticket sales, have most to lose given their market dominance and reliance on ticket sales for much of their revenue. Airlines, on the other hand, have much to gain if they can lower their distribution costs (Grant, 1996). Many carriers are still learning how to correctly blend the online sale channel to find the best recipe for extracting high volumes and more profit as the rules of the distribution game change (Airline Business, 2008) Electronic ticketing offers the opportunity to realise significant savings in ticket distribution costs, revenue accounting and billing processes, and in the reduction of handling costs associated with paper tickets (STTB, 2004).

Price wars represent one of the most severe forms of competitive interplay in the market place (Heil & Helsen, 2001). In recent years, there has been an increasing adoption of dynamic pricing policies in airline industry (Klein & Loebbecke, 2003). This trend is mainly due to increased availability of demand data, ease of changing
prices due to new technologies, and availability of decision-support tools for analyzing demand data and for dynamic pricing (Murali, 2008). Web-based pricing mechanisms aims at developing pricing strategies that reflect the competitive environment of the online market space, giving customers access to lower prices (Elmaghraby and Keskinocak, 2003).

Travel and tourism comprise the leading application field in business-to-consumer (B2C) e-commerce, representing approximately half of the total worldwide B2C turnover (Fodor and Werthner, 2004). O’Toole (2004) predicts that air travel could become world’s first web-enabled industry as online sales, e-tickets and range of new technologies gain acceptance with increasing speed. Electronic tickets, smart cards, online prepayments, and other technological advances make advance selling possible for airline industry (Jinhong and Shugan, 2001). These technologies lower the cost of making complex transactions at a greater distance from the seller’s site. As the number of internet users swells, the question arises as to how airlines can deal with the challenges of mastering the deployment of e-commerce and related business processes and technologies in their expansion effort (Verton, 2003; Hanke and Teo, 2003).

The advanced Technology innovation on convergence of IT and Communication systems provide services for efficient administration, safe and secured air traffic management for better customer satisfaction (Ramalingam, 2002). The airline industry has been embracing cutting edge technologies to gain competitive edge (Jiang et al., 2003; Parker, 2003; Baker, 2007). Airline staff can gather information about ticketing, flight scheduling, and luggage using wireless devices (Malladi and Agrawal, 2002). These emerging technologies have been changing the relationship between airlines and customers, airlines themselves and between airlines and their suppliers (Doganis, 2006). The whole process of doing business is being metamorphosed.

In India alone the online travel market is expected to grow an average of 46% a year from 2007 to 2011 (Violante, 2008). Kingfisher Airlines has deployed entire suite of Sabre Airline Solution consisting of more than twenty enterprise applications to enhance its guest processing functions (Sabre, 2007).
Radio Frequency Identification (RFID) in conjunction with smart card technology provides an extremely powerful mechanism for passenger processing enveloping every event from check-in to boarding. Airline baggage tracking system is one of the major commercial applications of RFID technology (Wyld, Jones and Totten, 2005). However, cost of RFID tags is still a major barrier to its implementation (DeVries, 2008).

Self-services in customer relationships are becoming increasingly important—a development that has been boosted by customers’ increasing and diverse use of the Internet. Self-service kiosks deliver fast and direct services to travellers’ right at the point of service and enable passengers with carry-on luggage to reserve tickets, buy tickets and also check-in (Karp, 2007). With e-ticketing, various self service initiatives such as online e-booking, web check-in, kiosk check-in and SMS check-in can be implemented (Talreja, 2007). A recent IATA survey revealed that passengers not only expect but also demand more opportunities to take control of their travel experience (Arnoult, 2008). Balancing of high-tech and high-touch are key challenge to self-service systems (Salomann, Kolbe and Brenner, 2006). The dramatic growth of web and self-service technologies are permitting customers and airlines to bypass the complexity and cost of old legacy systems (McIvor et al., 2003; Shon et al., 2003; Soldt, Bobbink and Ying, 2007). The emergence of technology has led to concern about the future role of travel agents and Global Distribution Systems (Lewis et al., 1998; Soldt et al., 2007).

Cost reductions and efficiency improvements are the key driver of IT projects. IT is critical to the profitability of individual airlines and the overall success of the industry. Airlines need to invest smartly in IT by outsourcing utility aspects, such as network, desktop, web hosting and datacentres and to move to flexible, usage-based charging of application service provision delivery (SITA, 2003).

Some of the major IT issues being faced by airline industry worldwide are:

- The percentage of revenue spent on IT by airlines on a revenue weighted basis has fallen from 3.5 percent in 2001 to around 2 percent in 2007 (Baker, 2007).
- Airlines are encountering problems in quantifying the returns on IT investments (Chatfield & Yetton, 2000).
There is lack of payment security, complexity of pricing model and lack of interlining capability (SITA, 2007).

Although the growth of internet based airline reservation services has been rapid, internet sales have experienced slow growth because of barriers such as perceived risk (Cunningham, Gerlach, Harper & Young, 2005).

There is no doubt that IT has rapidly evolved from operational resource into a strategic resource capable of changing patterns of competition within industries. IT is inextricably linked with the business and strategy of any airline (Coby, 2007).

### 3.8 Low Cost No Frills Model of Customer Service

The proliferation of Low Cost Carriers (LCC) is the newest trend in the airline industry. Deregulation in the airline sector resulted in increased competition between airlines which produced a number of small-scale, low cost companies, known as Low Cost Carriers. The low cost airline industry has changed the definition of airlines that air travel is a luxury and it is only for the upper segment of the population. Air travel has become increasingly accessible even to the more price-conscious travellers.

The emergence of LCC’s is a feature of world air transport markets. The first of the LCCs was Southwest Airlines which began operation in 1971. Since deregulation, a number of carriers have attempted to emulate its model with limited success. Development of Southwest, Ryanair, and easyJet can be regarded as one of the main drivers of airline industry restructuring (Shumsky, 2006). In the Asia Pacific region, Virgin Blue, based in Australia, and AirAsia, based in Malaysia, are among the success stories (Findlay, 2004). The basic features are fleet commonality, high asset utilization, short turnaround times, low distribution costs, point-to-point service, and secondary airport utilization (Jagersma & van Gorp, 2004; Rhoades et al., 2005).

The differences between low cost carriers and traditional airlines can be categorized into three groups: service savings, operational savings and overhead savings. Competitive advantage derived from greater aircraft productivity is of paramount importance and is achieved by a combination of innovative measures like single type of airplane - generally new generation Boeing 737s or Airbus A320s, single
passenger class, bare minimum passenger services, charging passengers for service items that are non-essential to the provision of air transport (i.e. on-board food, lounge access), yield management, offering low price to operate at higher passenger load factors, simplified routes, emphasizing point-to-point transit instead of transfers at hubs, direct sales of tickets over the Internet thus avoiding fees and commissions paid to travel agents and corporate booking systems, using websites to sell ancillary holiday products, and not offering frequent flyer programmes or interline (baggage check through) facilities for passengers transferring to or from other airlines (Sarkar & Rajshekhar, 2004; Spiess & Waring, 2005; Patibandla, 2005; Doganis, 2006; Hunter, 2006; Gopinath, 2007).

By adopting these low-cost measures LCC have been able to achieve substantial cost saving on short-haul sector over their full service airline competitors. According to Deccan Aviation’s Managing Director, Mr Gopinath, cost per kilometre per seat for Deccan is only 4.3 cents whereas its competitors fly at 8-16 cents. Its revenue yield is 5.1 cents. And now, by expanding the network and adding more flights, he plans to reduce costs even further (Narayanamurthi, 2007). In fact, the low cost carriers are having profound effect on the efficiency, competition and industry structure. Some LCCs, like Southwest Airlines and Jetblue Airways have received high service ratings on factors like on-time performance, flight cancellation etc. (ATW, 2006; Bowen et al., 2007).

The traditional full service airlines are facing many challenges and an uncertain future. All that is certain is that unless radical changes are made to the way they transact business, full service carriers will be unable to compete with the low-cost model (Hansson, Ringbeck & Franke, 2003; Foran, 2003; Hunter, 2006). There are allegations of FSC resorting to sharp price reduction coupled with aggressive capacity expansion in response to LCC entry (Windle & Dresner, 1995; Ito & Lee, 2004). The established airlines are forced to make the transition to applying differentiation in their pricing policy in order to compete with these newly formed companies as well as with existing competitors (Economist, 2004; Dikolli & Sedatole, 2004; Button, Costa & Cruz, 2007). Stock market’s perceive that low cost business model has higher viability as compared to full service business model in the aftermath of September 11, 2001, terrorist attacks (Flouris & Walker, 2005a,
Value for money acts as a significant factor affecting choice of the airline (Proussaloglou & Koppelman, 1999; Hall, Abubakar & Oppenheim, 2001).

Over the past few years, there has been a widespread departure from the original low-cost model introduced by Southwest Airlines (Sobie, 2007). Recent trends in the travel industry are driving an evolution of customer relationship management into customer value management (Esse, 2003). As the number of low-cost carriers has grown, these airlines have begun to compete with one another in addition to the traditional carriers. The low-cost carriers tend to follow a differentiation strategy as opposed to cost leadership on which the original low-cost model was based (Baker & Edinburgh, 2006; Pilling, 2008; Field, 2008). Although an increasing number of ‘hybrid’ low-cost models are achieving low operating costs, offering low fares and returning attractive operating profit margins, there is a case for recommending adherence to the original model to ensure greater profitability (Alamdari & Fagan, 2005).

While it is quite clear that for air travel in India country to become as common as is the case in the US, LCCs have to thrive and consolidate, their roadmap appears fraught with a number of factors like high ATF prices, rising labor costs, rapid fleet expansion, and intense price competition among the players. The problem is also compounded by new players entering the industry even before the existing players could stabilise their operations (Gupta, 2006). Navigation charges are 60% higher and fuel sales tax 80% higher than international benchmarks (Thomas, 2005). Industry as a whole has faced losses of upto Rs. 25 billion in 2006-07 (DGCA, 2008). The only solution is enhanced yield management and quicker turnaround times. The greatest saving in operation costs for LCCs is not just by cutting frills like hot meals but by improving efficiencies.

3.9 Recent Studies on Civil Aviation in India

Bhatt (1997) analysed the new aviation policy of India in the context of emerging global order in international civil aviation. The focus was on critical issues related to air transport policy in India seen in the global context. Rao & Rao (1997) had examined the route network of Indian Airlines, utilisation of its physical resources,

The National Council for Applied Economic Research (NCAER) Report (2000) identified the factors restraining the Civil Aviation sector from fully contributing to the growth and progress of the country. According to Saraswati (2001) and Bhandari (2002) regulatory – policy framework has prevented this sector from being transformed into a mass transport system. They suggested minimal intervention of the government to unlock its potential. Naresh Chandra Committee Report, (2003) delineated the problems being faced by airline industry in India and proposed a roadmap for its rapid growth and improvement in services to the passengers. Bansal, Khan & Dutt (2008a), examines the structure of the civil aviation in India and its growth since liberalisation. It highlights developments that have radically changed the face of aviation industry, opportunities and the concomitant challenges.

Baisya & Sarkar (2003, 2004) and Sarkar & Baisya (2005), while identifying the key attributes that influence customer choice in airline selection, also presented a comparative analysis of the performance of domestic airlines on the attributes. Khan, Dutt & Bansal (2007a, 2007c), in a preliminary study, investigated the service quality provided by different domestic airlines. Bansal, Khan & Dutt (2006) employed the concept of customer lifetime value in measuring marketing ROI for domestic airlines in India. Khan, Dutt & Bansal (2006b) and Bansal, Khan & Dutt (2008b) have also discussed at length the deployment of IT by the airline industry in India for providing upgraded services to the passengers thereby leading to enhanced customer satisfaction and improvement in overall efficiencies. In yet another research, Khan & Dutt (2006) and Khan, Dutt & Bansal (2006a, 2007b) have traced developments in the aviation sector in India with special reference to LCCs and their role in the emerging borderless world. Dutt (2006) has studied the stress among frontline and background staff of a domestic airline, factors leading to stress, its consequences and stress management techniques.
Solanki (2002) studied the management of marketing in different domestic airlines. It also studies the impact of open sky policy on air transport and the problems faced by the airlines. O'Connell & Williams (2006) reviews impact of regulatory reforms in supply of domestic air services. The International Air Transport Association (IATA) has identified five challenges for the successful development of air transport in India (1) enhancing safety, (2) urgent infrastructure improvement, (3) reasonable taxation, (4) commercial freedom and (5) Simplifying the Business through effective use of technology (Concil, 2005).

3.10 Research Gap

Review of literature reveals that most of the available studies on civil aviation are confined to USA and UK. In India, the aviation sector, from research point of view is largely unexplored. Particularly, there are not many studies on domestic civil aviation in India. As discussed in the preceding section, though some studies have been conducted in recent years, including those by the researcher, the impact of liberalisation in domestic aviation sector needs to be further explored.

Very few studies have been undertaken to determine the specific influence(s) of technology on airline industry structure in India. It is in this context that this study reviews the development and the role of information technology (IT) in the airline industry. It then discusses the role of IT in three areas of airline operations: Flight Support Services, In-Flight Services and Customer Support Services. This study discusses comprehensive research, including exploratory research with airline executives and passengers, using qualitative and quantitative methods to examine the use of ICTs in the domestic airline industry in India and to discuss recent developments in the industry.

Several airlines have started operation with new business paradigm and it is having huge impact on the structure of domestic airline industry in India. LCCs which are a new phenomenon in India, are making attempts to deploy low cost solutions extensively for providing service to the passengers. But, quality expectations of passengers from these carriers had till date not been explored by any researcher. Thus, the present study is an attempt to bridge this gap. The present research also
attempts to study the level of acceptability of low cost business model amongst the Indian airline passengers.

Even at the macro level, the customer service aspect of Indian airline industry, especially in the liberalised era has also largely remained unexplored. In fact, no attempt has been made to study the performance of FSCs from customer’s perspective. Thus, it is expected that the findings of the study will help the airlines, government and regulating agencies in evaluating the level of existing services being offered by the players as also in deciding on the portfolio of services to be made mandatory in the interest of passengers.

3.11 Chapter Summary

The discussion in this chapter started with a brief, historical review of the development of the literature surrounding the role of service marketing and the relationship between service quality and customer satisfaction. A detailed review of how service quality was defined and measured along with an evaluation of the dimensions going into the measurement of service quality.

The SERVQUAL Model (Parasuraman, et al., 1985, 1988) has been examined both as an instrument to measure customer perceptions and expectations of service quality in a general industry setting as well as specific to airline industry. The utility of SERVQUAL in measuring service quality gaps was thoroughly reviewed. Validity issues in the area of airline services in general and SERVQUAL scale in particular too have been discussed.

Role of IT in service delivery and impact of low cost model have been reviewed. Studies carried out in India and research gaps have been covered.