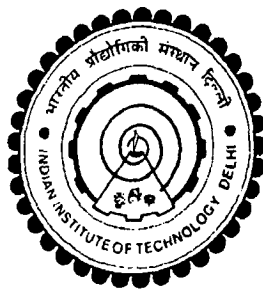


QUALITY OF SERVICE IN CELLULAR MOBILE COMMUNICATION: A SELECT STUDY

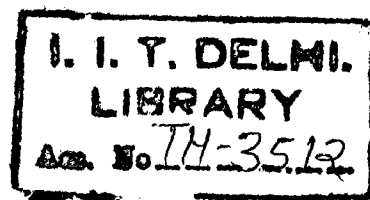
by
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Submitted
in fulfillment of the requirements of the degree of
Doctor of Philosophy
to the



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New Delhi 110016
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JULY 2007

Services ⑧ Mobile communication



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CERTIFICATE

This is to certify that the thesis entitled **“Quality of Service in Cellular Mobile Communication: A Select Study”** being submitted by **Anita Seth** to the Indian Institute of Technology, Delhi for the award of the degree of **Doctor of Philosophy** is a bonafide record of original research work carried out by her. She has worked under our guidance and supervision and has fulfilled the requirement for the submission of this thesis, which has reached the requisite standard. The matter embodied in this thesis has not been submitted, in part or full, to any other University or Institute for the award of any degree or diploma.



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*Dedicated to
My Supervisors
and
Parents*

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ABSTRACT

Increasingly demanding customers, globalization, accelerated competition, technological advances in communication sector and decreased governmental regulation worldwide have brought numerous challenges and opportunities for cellular mobile industry. Specially, in today's modern business environment, cellular mobile service providers face an increasing pressure of customers' requirements in service customisation, quality improvement, and demand responsiveness while simultaneously reducing costs. In order to sustain the business under these pressures, more and more enterprises are striving to develop long-term strategies. They have started realizing that their competitiveness is routed through quality of services.

In India, the service providers traditionally had a focus of increasing the customer base by controlling their prices. In the race towards enhancing the subscriber base, they need to understand that differentiation strategy lies not only in cost optimisations but also the way the services are delivered. Despite these efforts, service quality improvement continues to be an illusive goal. Cellular mobile service providers in India are realizing the importance of developing and implementing a comprehensive quality of service based differentiation strategy. This is expected to provide better understanding, management and improvement of quality of service.

Though there have been studies examining service quality for different service sectors (banking, health care, education etc.), but few related studies exist focusing on cellular mobile communication and that too in Indian context. In cellular mobile communication, the service quality management tends to pose some difficulties as service provider and customers are physically separate and services are combination of 'things' (network quality) and 'people' (internal service quality and customers). In such a scenario, the study gains importance and the present work can be viewed as a step to further enhance the understanding of the subject in cellular mobile context. In this regard, following broad issues are addressed related to quality of service:

- assessment of network quality: measurement and linkage with organizational performance;
- assessment of internal service quality: measurement and linkage with organizational performance;
- assessment of service quality as perceived by customers: measurement and linkage with customer satisfaction, retention and switching barriers;
- assessment of organizational performance issues for Indian cellular mobile organizations;
- development of a consolidated index to measure and monitor service quality.

In order to address these broad service quality issues, a well proven and systematic research methodology comprising of several validated steps was undertaken. This involved extensive review of literature, exploratory investigations, development of survey instrument, pilot testing, and refining and data collection. Two separate questionnaires were designed and developed for assessing different aspects of service quality at organizational and customer level. Relevant data was collected from both cellular mobile service providers and users of these services. The collected data was analysed through series of procedures including assessment of reliability, Exploratory Factor Analysis, Confirmatory Factor Analysis, correlation and regression. Further, validity of the analysis results was accredited through content, construct and criteria validity tests. Structural Equation Modelling is used to understand the relationship among various constructs at different levels for both organizational and customer level data. Different set of hypotheses are also formulated and assessed using Structural Equation Modelling (SEM).

Significant contributions of the research include development of validated instruments for assessing internal service quality, network quality, customer perceived service quality and organizational performance. For example, the research revealed six dimensional structure to assess internal service quality comprising of top management commitment, strategic planning, employee empowerment, employee involvement, inter-departmental interaction and customer orientation. Further, the results of SEM revealed that internal service quality and network quality are positively linked with organizational performance. Similarly, relationships between customer perceived service quality, customer satisfaction, retention and switching barriers is also assessed using SEM. A service quality index based on aggregate scores of internal service quality, network quality and customer perceived service quality is also suggested for cellular mobile organizations.

The research provided significant practical implications for service providers, regulators and customers. This research offers managers with a practical framework for quality of service improvement and suggests the ways to achieve customer satisfaction, retention and hence achieve sustainable growth and competitive strategy.

Keywords: Cellular mobile, quality of service, customer satisfaction, switching barriers, customer retention, organizational performance.

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