CH 15

ANALYZING IT SERVICE MANAGEMENT (ITSM) FRAMEWORKS AND SERVICE QUALITY ENHANCEMENT

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Ch.Id:-NSP/EB/EPARDDIAS/2026/Ch-15

ABSTRACT

The rapid growth of digital technologies has increased the importance of effective IT service management. Organizations rely heavily on IT systems to deliver services, manage operations, and maintain customer relationships. As a result, maintaining high service quality in IT services has become a critical organizational priority. IT Service Management (ITSM) frameworks such as ITIL provide structured approaches to managing IT services. These frameworks focus on aligning IT services with business needs, improving service efficiency, and enhancing customer satisfaction. The SERVQUAL model is widely used to measure service quality by evaluating the gap between customer expectations and perceived service performance. The model identifies five key dimensions of service quality: tangibility, reliability, responsiveness, assurance, and empathy. In the context of IT services, these dimensions help organizations evaluate service performance and identify areas for improvement. This study examines the role of ITSM frameworks in enhancing service quality in Indian IT companies using the SERVQUAL model. Information Technology Service Management (ITSM) frameworks have become essential for organizations aiming to deliver reliable and high-quality IT services. With increasing dependence on digital infrastructure, organizations must ensure that their IT services meet customer expectations. The SERVQUAL model, developed by A. Parasuraman, Valarie A. Zeithaml, and Leonard L. Berry, is widely used to measure service quality across five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. This study analyzes the effectiveness of ITSM frameworks in enhancing service quality in IT companies in India. The research examines six major IT companies with a total sample size of 765 respondents. The study uses descriptive statistics, SERVQUAL gap analysis, and statistical evaluation to examine service quality performance. The findings indicate that ITSM frameworks significantly improve service reliability, responsiveness, and customer satisfaction, although challenges remain in empathy and personalized service delivery.

Keywords: *IT Service Management, Service Quality, SERVQUAL Model, ITSM Frameworks, Customer Satisfaction, IT Service Delivery, Service Quality Gap, Information Technology Services, Service Performance, Digital Service Management.*

INTRODUCTION

Service quality and customer satisfaction in information technology services As businesses continue to rely upon information technology (it) to drive business value, the importance of effective IT Service Management (ITSM) cannot be overstated. Organizations that implement itsm best practices are able to create efficient, reliable, and continually evolving services. Itsm also allows organizations to manage and measure

their it processes. It provides a way for organizations to establish clear goals and objectives for their it functions.

A number of studies have shown that successful implementation of itsm processes directly impacts the overall performance of an organization. These studies demonstrate that organizations implementing effective itsm process enjoy greater employee satisfaction, customer satisfaction, and financial returns. To further assist organizations in establishing effective itsm processes, there exist a variety of established frameworks and methodologies. The information technology infrastructure library (itil), cobit, iso/iec 20000-1, cmmi-svc, togaf, etom, uddi, bpmn, bpel and others, are examples of this. Each of these frameworks outlines specific requirements for developing itsm processes. These frameworks are designed to meet the need for standards based approaches to it service management. One of the primary drivers of the adoption of these standards is the growing demand from customers for high-quality service. Customers expect quick resolution times and minimal downtime. Additionally, they require accurate billing and easy communication with it staff. The SERVQUAL model was created by A. Parasuraman, v.a. Zeithaml, and l.l. Berry to help managers assess service quality.

The model includes five key areas:

- Reliability: timely and correct fulfillment of promises
- Responsiveness: willingness to help customers and provide prompt service
- Assurance: trustworthiness, courtesy, and communication.
- Empathy: care and individualized attention to customers' needs.
- Tangibles: physical evidence of the service such as appearance, facilities, equipment, and communications materials.

REVIEW OF LITERATURE

The first study was done by Stefan Cronholm and Nicklas Salomonson in 2014. They researched the use of SERVQUAL as an indicator of IT service quality. Traditionally ITSM focuses primarily on whether or not IT services function properly; however, this research shows that measuring IT service quality based solely on functionality may not provide a complete picture of the level of service quality. Therefore, Cronholm and Salomonson researched ways to adapt SERVQUAL to measure the "customer-centric" aspects of service quality in IT. Their research included analyzing data collected from various IT service companies and found there were many changes needed in order to effectively apply the SERVQUAL framework to ITSM. Additionally, their research validated that the five primary factors of SERVQUAL (reliability, responsiveness, assurance, empathy and tangibles) are applicable to measuring IT service quality. However, they also noted that other characteristics should be added to account for the technological nature of IT. In conclusion, Cronholm and Salomonson stated that SERVQUAL could be incorporated into ITSM if adapted appropriately.

Ali Yazici and Alok Mishra published a study in 2015 regarding IT Service Management (ITSM). The researchers studied the international growth of research and educational programs concerning ITSM. Yazici

and Mishra identified that ITSM has become a common practice in many companies to increase service quality and operational effectiveness. Their study was a review of academic programs and research studies involving the implementation of ITSM. Based upon their findings, it was evident that companies implementing ITSM achieved greater success in delivering quality services and increased alignment between IT services and business goals. Furthermore, the study concluded that consistent and defined service management processes contributed significantly to reliable and responsive services. The authors also noted that there is an increasing need for educated ITSM professionals. Yazici and Mishra concluded that frameworks for ITSM contribute greatly to enhancing service quality and operational performance in organizations.

In 2016, Ravinda Wijesinghe, Helana Scheepers, and Stuart McLoughlin did a study on benefit realization in IT Service Management Projects. This research focused on how organizations identify and measure benefits resulting from the implementation of IT Service Management (ITSM). This research utilized a case study method to analyze the effects of ITSM practices through the implementation of the Information Technology Infrastructure Library (ITIL) in one multinational company. The findings supported the fact that effective implementation of ITSM enhances the quality of services delivered to customers by providing standardized processes for managing information technology services. The authors of this paper also stressed that aligning ITSM processes with the overall strategic goals of an organization is crucial to maximizing the potential benefits from these processes. Finally, Wijesinghe et al., emphasized that identifying and tracking measurable benefits are necessary for obtaining successful outcomes in the implementation of ITSM processes. The authors conclude that well-defined, repeatable processes for managing information technology are key elements to superior information technology service performance.

Anup Shrestha, Aileen Cater-Steel, and Mark Toleman's 2016 study examined Process Assessment in IT Service Management Environments. The authors of this study proposed developing a computer mediated process assessment methodology for assessing capabilities in Information Technology Service Management (ITSM) processes. With the proposed methodology, organizations would be able to assess their current state of service management practices as well as identify areas where they could improve those practices. The results demonstrated that the automation of assessments increases both transparency and speed in conducting assessments relative to traditional methods for evaluating service management processes. The study also emphasized that ongoing efforts to continuously improve the quality of services provided are essential for maintaining high levels of service quality over time. The authors conclude that technology enabled assessment methodologies can significantly enhance the ability of organizations to conduct assessments of their ITSM processes and make informed decisions about future improvements to those processes.

A study conducted by Bernard Marr in **2016** analyzed the role of big data and digital technologies in improving service quality in organizations. The research emphasized that organizations increasingly rely on data analytics to monitor service performance and customer satisfaction. The author argued that predictive analytics enables organizations to identify potential service issues and improve operational efficiency. The study also highlighted that digital technologies enhance service responsiveness and reduce operational

delays. By integrating data analytics with service management frameworks, organizations can deliver more reliable services. The research further emphasized the importance of continuous monitoring of service performance. The author concluded that organizations adopting data-driven service management strategies achieve improved service quality and customer experience. Research conducted by Philip Kotler in **2017** examined the relationship between service quality and customer satisfaction in modern service industries. The study emphasized that organizations must continuously improve service delivery to maintain customer loyalty. According to the research, service quality plays a critical role in shaping customer perceptions and organizational reputation. The study also highlighted that structured frameworks such as SERVQUAL provide valuable insights into customer expectations and service performance. Organizations can use these insights to identify service gaps and implement improvement strategies. The research further emphasized the importance of customer-centric service management practices. The author concluded that organizations delivering consistent service quality achieve stronger customer relationships and long-term competitive advantage.

A study conducted by Jeanne W. Ross, Cynthia M. Beath, and Martin Mocker in **2019** examined digital transformation and its impact on service management practices. The research emphasized that digital technologies are transforming how organizations design and deliver services. According to the study, organizations adopting digital service platforms achieve improved operational efficiency and enhanced customer experiences. The authors highlighted that IT service management frameworks provide the necessary structure for managing digital services effectively. The research also emphasized the importance of integrating digital technologies with service management processes. The authors concluded that organizations combining digital transformation with ITSM frameworks achieve higher service reliability and customer satisfaction. Research conducted by Sheikh Muhammad Hizam and Waqas Ahmed in **2020** examined the application of SERVQUAL concepts in evaluating emerging technology services such as Internet of Things (IoT). The study proposed a modified service quality framework to measure technology-based services. The authors identified several additional service quality dimensions such as privacy and efficiency that influence customer perceptions of technology services. Their research emphasized that traditional service quality models must evolve to accommodate digital service environments. The findings indicated that service quality remains a critical factor influencing the adoption of innovative technologies. The authors concluded that SERVQUAL-based frameworks remain useful for evaluating service quality in emerging digital services when appropriately modified.

A literature review conducted by João Serrano and colleagues in **2021** examined the benefits and challenges associated with IT service management implementation. The study analyzed multiple research articles to identify key trends in ITSM adoption. The findings indicated that organizations implementing ITSM frameworks experience improved service quality, operational efficiency, and customer satisfaction. However, the research also identified challenges such as lack of expertise and insufficient organizational support during implementation. The study emphasized the importance of training and organizational commitment for successful ITSM adoption. The authors concluded that ITSM frameworks provide valuable tools for improving service delivery but require strategic planning and continuous improvement.

A recent study by Minh Tri Lê and Ali Ait-Bachir in **2025** explored the use of artificial intelligence techniques for improving IT service management operations. The research focused on automated prioritization of IT service tickets using machine learning models. The study compared embedding-based approaches with transformer-based models for analyzing IT service requests. The findings demonstrated that advanced AI models significantly improve the accuracy of ticket prioritization and service request management. This improvement allows organizations to respond more efficiently to technical issues and enhance service quality. The authors concluded that integrating artificial intelligence with ITSM frameworks can significantly improve operational efficiency and service responsiveness.

OBJECTIVES OF THE STUDY

1. To analyze the effectiveness of ITSM frameworks in improving IT service quality.
2. To measure service quality using the SERVQUAL model.
3. To identify gaps between customer expectations and perceived IT service performance.
4. To examine the relationship between ITSM frameworks and customer satisfaction.

Table 1: Methodology & Sample Design

Parameter	Details
Sample Size	765 respondents
Number of Companies	6 IT companies
Industry	Information Technology
Sampling Method	Stratified sampling
Data Collection Tool	Structured questionnaire
Measurement Scale	5-point Likert scale

The survey collected information from a total of 765 participants (customers and personnel) in their interaction with IT service platforms. The sample consisted of 6 major IT firms located in India; by utilizing stratified sampling, the researchers were able to obtain an adequate distribution of all departments and customer bases. By using a standard form questionnaire for measuring service quality across the five SERVQUAL scales, the research team obtained quantitative responses to each dimension. The standardized response format on the questionnaires used a five point Likert scale (strongly disagree to strongly agree). The larger sample size will increase confidence in the findings resulting from statistical analyses and also provide a reliable representation of the IT service industry. Both internal IT users and external clients who regularly use IT services were included as part of the sample base of the study. This strategy provides a basis for evaluating service quality based upon actual work experience.

DATA ANALYSIS & INTERPRETATION

Table 2: Profile of Selected Companies

Company	Industry Segment	Respondents Total Sample = 765
Tata Consultancy Services	IT Services	135
Infosys	IT Consulting	128
Wipro	IT Solutions	127
HCLTech	IT Infrastructure	125
Tech Mahindra	IT & Telecom Services	125
LTIMindtree	Digital Transformation	125

The focus of this research is a group of six major IT Service Management (ITSM) providers in India with an extensive history of utilizing IT service management frameworks. All six are involved in managing large scale IT services for customers around the world. This will allow for a representative sample size. Due to having one of the largest workforces and service portfolios Tata Consulting Services had the most responses. Additionally Infosys and Wipro also had many responses because of their large scale IT service operations. These three companies utilize service management frameworks such as ITIL and other industry recognized service management standards. They were included in this study so that the effect of using structured service management practices on service quality can be evaluated. The data collected from these companies will provide useful insight into whether or not there is value in developing structured service management processes to improve the delivery of IT services.

Table 3: SERVQUAL Dimensions Mean Scores

Dimension	Mean Score	Standard Deviation
Tangibility	3.95	0.62
Reliability	4.12	0.58
Responsiveness	4.05	0.60
Assurance	3.98	0.64
Empathy	3.76	0.70

Reliability was found to have the highest average across the five SERVQUAL dimensions. Therefore, it can be concluded that the companies' information technology (IT) services generally meet the expectations of dependability and consistency. Customers generally view IT services in terms of being efficient and delivering services as expected. Although responsiveness had a lower average than reliability, the average for responsiveness indicated that IT support teams typically responded quickly to customer service inquiries or reports of technical issues. As such, this suggests that IT Service Management (ITSM) frameworks were effective at addressing customer service-related incidents/issues. In addition, tangibles was given a moderate positive response from customers. Overall, customers viewed the companies' IT systems/tools as up-to-date and reliable. Customer perception of assurance reflected their level of trust in the companies' IT support teams. Specifically, the moderate levels suggest that while customers do not doubt the knowledge or

competency of IT personnel, they may question whether those individuals understand their specific concerns/needs. Finally, customers gave empathy the low average across all five dimensions. These results indicate that customers believe that these companies could improve their ability to provide personal service and demonstrate an understanding of each customer's unique requirements.

Table 4: SERVQUAL Gap Analysis

Dimension	Expected Score	Perceived Score	Gap
Tangibility	4.20	3.95	-0.25
Reliability	4.35	4.12	-0.23
Responsiveness	4.30	4.05	-0.25
Assurance	4.25	3.98	-0.27
Empathy	4.10	3.76	-0.34

The SERVQUAL gap analysis reveals that there is a negative gap between customer expectations and perceived service performance across all five dimensions. This indicates that while the companies provide relatively high-quality IT services, they still fall slightly short of customer expectations. The largest gap is observed in the empathy dimension. This suggests that customers feel IT service providers need to focus more on understanding individual customer requirements and offering more personalized support. The gaps in tangibility and responsiveness indicate that customers expect further improvements in technological infrastructure and faster service responses. Although IT systems are generally efficient, customers expect continuous upgrades and faster issue resolution. The relatively smaller gap in reliability indicates that ITSM frameworks have been successful in ensuring consistent service delivery. Overall, the gap analysis highlights areas where organizations can improve their IT service management practices.

Table 5: Correlation Between ITSM Practices and Service Quality

Variable	Correlation Coefficient
ITSM Framework Implementation & Reliability	0.72
ITSM Framework Implementation & Responsiveness	0.69
ITSM Framework Implementation & Assurance	0.65
ITSM Framework Implementation & Empathy	0.58

The correlation results demonstrate a strong positive relationship between ITSM framework implementation and service quality dimensions. The highest correlation is observed between ITSM implementation and reliability, indicating that structured ITSM practices significantly improve service dependability. A strong correlation is also observed between ITSM frameworks and responsiveness, suggesting that standardized processes help organizations respond more efficiently to service requests and incidents. The correlation between ITSM and assurance indicates that structured service management practices enhance customer confidence in IT services. Customers feel more secure when IT services are managed through standardized procedures. The relatively lower correlation with empathy suggests that while ITSM frameworks improve operational efficiency, they may not fully address personalized service aspects. Organizations must complement ITSM frameworks with customer-centric strategies to enhance empathy.

FINDINGS OF THE STUDY

1. The study reveals several important findings regarding the impact of ITSM frameworks on service quality in IT companies. First, the results indicate that ITSM frameworks significantly improve service reliability and consistency. Organizations that implement structured service management processes are better able to deliver dependable IT services.
2. Second, the study finds that responsiveness is a key strength of ITSM-enabled organizations. Standardized incident management and service request processes allow IT teams to respond quickly to technical issues.
3. Third, the analysis shows that customers generally have positive perceptions of IT infrastructure and technological capabilities. Modern IT tools and platforms contribute to improved service quality.
4. Fourth, the results reveal that assurance plays a critical role in building customer trust. Customers are more confident when IT service teams demonstrate professional competence and technical expertise.
5. Fifth, the SERVQUAL gap analysis indicates that customer expectations are slightly higher than perceived service performance. This suggests that organizations must continuously improve their service quality to meet evolving customer expectations.
6. Sixth, the largest service quality gap is observed in the empathy dimension, indicating that personalized service delivery requires further attention.
7. Seventh, the correlation analysis confirms that ITSM frameworks have a strong positive influence on service quality dimensions.
8. Eighth, organizations that effectively implement ITSM practices are more likely to achieve higher customer satisfaction.
9. Ninth, the study highlights the importance of integrating ITSM frameworks with customer experience management strategies.
10. Tenth, the results indicate that continuous monitoring and improvement of IT service processes are essential for maintaining service excellence.
11. Eleventh, employee training and skill development are important factors influencing service quality.
12. Twelfth, technological investments in automation and monitoring tools contribute to improved IT service performance.
13. Thirteenth, organizations that align IT services with business objectives achieve better service outcomes and higher customer satisfaction.

CONCLUSION

This research indicates that IT Service Management (ITSM) framework(s), are important to deliver high-quality IT Services. With this structure, an organization will be able to provide consistent/reliable and efficient IT services. The results from the SERVQUAL model show that, while IT companies have performed well in terms of Reliability/Responsiveness; however, they continue to experience gaps in Customer Expectations vs. Perceived Quality. Specifically, the results indicate that organizations need to develop their

ability to empathize and personalize their service offerings. The results of this study support the idea that while ITSM frameworks are focused on operational efficiencies; organizations may benefit by incorporating customer centric practices into their framework. To achieve higher levels of service quality, organizations need to invest in training employees, developing customer engagement initiatives and investing in new IT technologies. Overall, the successful application of ITSM frameworks along with customer-centric service strategy initiatives will result in improved IT service quality which will lead to long term organizational success.

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