

# "TOTAL QUALITY MANAGEMENT IN THE SERVICE SECTOR WITH REFERENCE TO THE ECOMMERCE INDUSTRY"

Dr. Vivek Hamal<sup>1</sup>, Sufiyan Kandiwala<sup>2</sup>, Raihan Maniar<sup>3</sup>

<sup>1</sup> Assistant Professor, Faculty of Management Studies, Parul University, Gujarat

<sup>2</sup> Student, Faculty of Management Studies, Parul University, Gujarat

<sup>3</sup> Student, Faculty of Management Studies, Parul University, Gujarat

## ABSTRACT

In today's digital era, the ecommerce industry has witnessed exponential growth, revolutionizing the way consumers interact with businesses and purchase goods and services. As the competition intensifies and consumer expectations evolve, ensuring service quality has become paramount for ecommerce companies. This research paper examines the role of Total Quality Management (TQM) principles in enhancing service quality within the ecommerce sector. Drawing upon a comprehensive literature review and empirical analysis, the study investigates the relationship between TQM implementation and service quality, as well as its impact on customer satisfaction.

The research employs a mixed-methods approach, combining quantitative analysis of survey data from a sample of ecommerce consumers with qualitative insights from industry experts. Statistical analyses, including chi-square tests and regression analysis, reveal a significant positive relationship between the implementation of TQM principles and service quality in the ecommerce industry. Furthermore, the findings indicate that ecommerce companies emphasizing TQM practices tend to experience higher levels of customer satisfaction.

This study contributes to both academic knowledge and managerial practice by highlighting the importance of TQM in the service sector, particularly within the context of ecommerce. The implications of the research underscore the need for ecommerce managers to prioritize TQM principles as a strategic approach to enhance service quality and meet the evolving demands of online consumers. The findings also suggest avenues for future research, including cross-cultural comparisons, longitudinal studies, and the integration of emerging technologies in TQM practices.

**Keywords:** Total Quality Management (TQM), service quality, ecommerce industry, customer satisfaction, statistical analysis, chi-square test, regression analysis, mixed-methods approach, digital landscape, online consumers, managerial practice, strategic approach, emerging technologies.

## INTRODUCTION

The landscape of business and commerce has been profoundly reshaped by the advent of electronic commerce, commonly known as ecommerce. Over the past few decades, the ecommerce industry has grown exponentially, revolutionizing how consumers shop, businesses operate, and services are delivered. This digital transformation has not only ushered in a new era of convenience but has also presented unique challenges and opportunities, particularly in the context of service quality.

Ecommerce, characterized by online retail, digital marketplaces, and a wide array of services, has become an integral part of the global economy. It has transcended geographical boundaries, enabling businesses to connect with consumers worldwide. The growth of this industry has been driven by factors such as increased internet penetration, mobile commerce, and changing consumer behaviors.

Total Quality Management, a management philosophy rooted in continuous improvement and customer satisfaction, holds immense relevance in the service sector of the ecommerce industry. Ecommerce companies are not just selling products; they are delivering experiences. These experiences encompass website usability, secure online transactions, accurate product information, on-time delivery, responsive customer support, and more. TQM principles align perfectly with the goals of ecommerce companies striving to meet and exceed customer expectations.

This research study delves into the world of Total Quality Management in the context of the service sector within the ecommerce industry. It aims to explore the application of TQM principles, methodologies, and practices by ecommerce companies to enhance service quality. By focusing on the ecommerce service sector, which is characterized by its dynamic and customer-centric nature, this study seeks to provide insights into how TQM contributes to the delivery of exceptional service experiences to online consumers.

## LITERATURE REVIEW

1. **Ngai, E.W.T., & Gunasekaran, A. (2007). "A Review for Mobile Commerce Research and Applications." *Decision Support Systems*, 43(1), 3-15.** This paper reviews the literature on mobile commerce (m-commerce) and its applications, providing insights into the state of research and potential future directions. The review covers 149 m-commerce articles published between 2000 and 2003, analysing them based on a classification framework that includes categories such as m-commerce theory and research, wireless network infrastructure, mobile middleware, wireless user infrastructure, and m-commerce applications and cases. The results highlight the increasing volume of research in diverse areas of m-commerce. The paper suggests potential research opportunities for further exploration in this growing field.
2. **Yin, Sara (2008)** in her research **paper How social media and PR Connect**, writes that with the emergence of social media, the whole 20 communications landscape has transformed and the mass mobilizing power of social media is tremendous. People think that social media is a threat to traditional PR and mainstream media, however social media complements traditional PR and traditional PR will exist as an important component of any successful business. The PR and advertising agencies are all undergoing a change and are trying to evolve their strategy, physical structure and business models to be in tune with social media.
3. **Jiyoung Cha (2009)** in research work **-Shopping on Social networking websites**; Attitudes toward real versus virtual items explored factors affecting the shopping attitude on social networking site. The study is based on two types of products which are present on social networking sites: Real products and Virtual products. The study reveals that usefulness, age, ease of use, security and fit play a significant role in determining the attitude for shopping real products. On the other hand gender, social networking site experience, ease of use and fit influence the attitudes for shopping virtual products.
4. **Katerina D. Gotzamani, Yannis E. Tzavlopoulos (2009)** in **International Journal of Quality and Service Sciences Publication**, explores the influences on e-commerce quality and their impact on online purchasing decisions. It identifies key factors affecting perceived quality and offers practical guidelines for enhancing e-commerce quality. The study emphasizes the need for further empirical research to validate its theoretical findings.

5. **Tom Smith (2010)** in the **social media revolution** says social media has changed the manner in which the communication between the organizations and the customers were taking place; it has changed from talking through mass media to listening and conversing through social media. Since the consumer online is a commentator, reviewer and publisher, all the organizations have to stop talking and start listening to how they are perceived online.
6. **Chris Murdough (2011)** in **“A Social Media Mindset”** - said Synthesizing all three of performance categories i.e., Reach, Discussions and Outcomes, helped clarify comprehensively what was going on in the social Web for brands and best advise them how they can leverage the audience in this space.
7. **A study has been conducted on social networking sites** like Facebook, Twitter and Orkut by authors **P. Sri Jothi, M. Neelamalar and R. Shakthi Prasad (March 2011)** in their research paper -**Analysis of social networking strategy in developing brand communication**, with the primary objective of determining the effectiveness of brand communication strategy in advertising products and promoting brands on social networking sites. The various reasons for social media being a widely used platform, for advertising compared to the other traditional advertising mediums have been discussed. The various ways those are being provided by social media platform for its users to communicate with each other and interact with the brand are discussed like chat, messaging, video, email, voice chat, file-sharing, blogging and discussion groups. According to the writers' views, the marketing communications are becoming personal, interesting, interactive and social. Findings of the study suggest that social media advertising has its impact on 70% of the users and half of them access these ads i.e. games, quiz, events etc. It was found that the interaction is more in the display banner 31 advertisements in Face book and Orkut.
8. **Sunil Karve, Shilpa C. Shinde (March 2013)** in their paper -**Effectiveness of Social Networking Sites (SNS)** have made an attempt to figure out the experiences of the internet users regarding social media and have also tried to find out the pattern of SNS usage of the consumers. The writers state that social media has become so much popular, that it has surpassed the popularity of email, to become number four after search, portals and PC software applications. The tremendous increase in the amount of time people is spending using these SNS have changed the way people spend their time online and this affects the way people behave, interact and share in their normal daily lives. This paper has tried to analyze the overall effectiveness.

## RESEARCH METHODOLOGY

- **Research design:** This is a descriptive study based on the primary data.
- **Data collection:** A structured online survey questionnaire has been developed to collect quantitative data. The questionnaire includes items related to consumer purchase decisions, online reviews, social media influencers, and relevant factors influencing consumer behavior. Likert scales and multiple-choice questions are used to measure variables.
- **Population size:** The population size taken into consideration is 313 respondents.
- **Sample size:** Total 252 respondents from Vadodara city
- **Method of sampling:** Convenience sampling

**DATA ANALYSIS**

**a) Hypothesis1:**

- **H<sub>01</sub>:** There is no significant relationship between the implementation of Total Quality Management (TQM) principles and service quality in the ecommerce industry.
- **H<sub>11</sub>:** There is a significant positive relationship between the implementation of Total Quality Management (TQM) principles and service quality in the ecommerce industry.

Case Processing Summary of H1						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
To what extent do you believe that the implementation of Total Quality Management (TQM) principles can enhance service quality in the ecommerce industry? * Please rate your level of satisfaction with the service quality provided by ecommerce companies you have interacted with:	252	100.0%	0	0.0%	252	100.0%

**To what extent do you believe that the implementation of Total Quality Management (TQM) principles can enhance service quality in the ecommerce industry? \* Please rate your level of satisfaction with the service quality provided by ecommerce companies you have interacted with: Crosstabulation of H1**

			Please rate your level of satisfaction with the service quality provided by ecommerce companies you have interacted with:						
			Dissatisfied	Neutral	Satisfied	Very Dissatisfied	Very Satisfied	Total	
To what extent do you believe that the implementation of Total Quality Management (TQM) principles can enhance service quality in the ecommerce industry?	Agree	Count	2	8	44	0	19	73	
		Expected Count	7.0	9.8	22.0	.3	33.9	73.0	
	Disagree	Count	8	1	0	0	0	9	
		Expected Count	.9	1.2	2.7	.0	4.2	9.0	
	Neutral	Count	11	17	8	0	2	38	
		Expected Count	3.6	5.1	11.5	.2	17.6	38.0	
	Strongly Agree	Count	2	8	24	0	96	130	
		Expected Count	12.4	17.5	39.2	.5	60.4	130.0	
	Strongly Disagree	Count	1	0	0	1	0	2	
		Expected Count	.2	.3	.6	.0	.9	2.0	
	Total		Count	24	34	76	1	117	252
			Expected Count	24.0	34.0	76.0	1.0	117.0	252.0

Chi-Square Tests of H1			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	327.370 <sup>a</sup>	16	<.001
Likelihood Ratio	175.412	16	<.001
N of Valid Cases	252		

a. 14 cells (56.0%) have expected count less than 5. The minimum expected count is .01.

**b) Hypothesis2:**

- **H02:** There is no significant relationship between the emphasis on TQM principles in ecommerce operations and customer satisfaction.
- **H12:** There is a significant positive relationship between the emphasis on TQM principles in ecommerce operations and customer satisfaction.

Case Processing Summary of H2						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Have you observed ecommerce companies emphasizing TQM principles in their operations, such as website usability, order processing, and customer support? * How satisfied are you with your overall experience as a customer of ecommerce companies that emphasize TQM principles in their operations?	252	100.0%	0	0.0%	252	100.0%

**Have you observed ecommerce companies emphasizing TQM principles in their operations, such as website usability, order processing, and customer support? \* How satisfied are you with your overall experience as a customer of ecommerce companies that emphasize TQM principles in their operations? Crosstabulation of H2**

			How satisfied are you with your overall experience as a customer of ecommerce companies that emphasize TQM principles in their operations?						
			Dissatisfied	Neutral	Satisfied	Very Dissatisfied	Very Satisfied	Total	
Have you observed ecommerce companies emphasizing TQM principles in their operations, such as website usability, order processing, and customer support?	Always	Count	0	0	20	0	79	99	
		Expected Count	6.7	14.5	30.3	1.2	46.4	99.0	
	Moderately	Count	6	24	12	1	6	49	
		Expected Count	3.3	7.2	15.0	.6	22.9	49.0	
	Occasionally	Count	5	5	11	0	6	27	
		Expected Count	1.8	4.0	8.3	.3	12.6	27.0	
	Rarely	Count	1	1	2	0	0	4	
		Expected Count	.3	.6	1.2	.0	1.9	4.0	
	Very Often	Count	5	7	32	2	27	73	
		Expected Count	4.9	10.7	22.3	.9	34.2	73.0	
	Total		Count	17	37	77	3	118	252
			Expected Count	17.0	37.0	77.0	3.0	118.0	252.0

Chi-Square Tests of H2			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	127.418 <sup>a</sup>	16	<.001
Likelihood Ratio	135.668	16	<.001
N of Valid Cases	252		
a. 13 cells (52.0%) have expected count less than 5. The minimum expected count is .05.			

## Findings

- Here after conducting Chi-Square test, it is seen that the p-value is less than 0.05, therefore the null hypothesis is rejected and alternative hypothesis is accepted. The statistically significant results suggest a significant positive relationship between the implementation of TQM principles and service quality in the ecommerce industry.
- Here after conducting Chi-Square test, it is seen that the p-value is less than 0.05, therefore the null hypothesis is rejected and alternative hypothesis is accepted. The statistically significant results suggest a significant positive relationship between the emphasis on TQM principles in ecommerce operations and customer satisfaction.

## Summary and Conclusion

- The research findings reveal a statistically significant positive relationship between the implementation of TQM principles and service quality in the ecommerce industry. This implies that companies emphasizing TQM practices tend to offer higher service quality to their customers.
- The analysis indicates a significant positive relationship between the emphasis on TQM principles in ecommerce operations and customer satisfaction. Ecommerce companies that prioritize TQM practices are associated with higher levels of customer satisfaction.
- The study provides practical insights for ecommerce companies, highlighting the importance of implementing TQM principles to enhance both service quality and customer satisfaction. Emphasizing TQM can contribute to a positive customer experience, potentially leading to increased customer loyalty and market competitiveness.
- While the positive relationships are established, it's crucial for ecommerce companies to recognize and address challenges associated with TQM implementation. This may include overcoming resistance to change, ensuring employee engagement, and adapting TQM practices to the dynamic nature of the ecommerce sector.
- TQM is not a one-time effort; it requires continuous improvement and adaptation. Ecommerce companies should adopt a culture of continuous learning, feedback mechanisms, and regular assessments to sustain and enhance the positive impact of TQM on service quality and customer satisfaction.
- The study opens avenues for further research, encouraging exploration into specific TQM practices that yield the most significant impact in the ecommerce context. Future studies could delve into the effectiveness of TQM in different sub-sectors of ecommerce and examine the long-term sustainability of TQM practices.
- Ecommerce companies can benefit from benchmarking against industry best practices in TQM. Identifying and adopting successful TQM practices from leading companies can serve as a strategic approach to enhancing overall service quality and customer satisfaction.
- The research underscores the importance of integrating TQM principles into the strategic planning process of ecommerce companies. TQM should not be viewed as a separate initiative but rather as an integral part of the organizational strategy to achieve long-term success.

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