A Cross-Channel Assessment of Service Quality and Trust in Online and Offline Retailing

Dr. Kalpana Naidu C[1], Mithunia M[2]
[1]*Associate Professor, Department of Commerce (Accounting & Finance) Women's Christian College, Chennai (Affiliated to University of Madras)*
[2]*Student, Department of Commerce (Accounting & Finance) Women's Christian College, Chennai (Affiliated to University of Madras)*

Abstract- ***The rapid expansion of online retailing alongside traditional brick-and-mortar formats has transformed consumer shopping behaviour and raised important questions about service quality, trust formation, and satisfaction across channels. While online stores provide convenience, accessibility, and broad assortments, they lack physical interaction, which continues to serve as a major trust-building factor in offline retail. This study investigates how consumers perceive service quality dimensions—reliability, responsiveness, tangibles, assurance, and empathy—along with trust indicators in pure-play online and physical retail environments. Using a descriptive research design and responses from 156 consumers, the study compares cross-channel consumer evaluations based on the SERVQUAL framework. The findings reveal strong Omni channel behaviour, higher satisfaction and trust in physical stores, and an online trust gap driven by limited physical interaction and inconsistent information quality. Both channels exhibit neutral responses in responsiveness and empathy, signalling service gaps. The study concludes with strategic recommendations for improving trust, service performance, and customer satisfaction across both retail formats.***

Keywords- ***Online retailing; Brick-and-mortar stores; Service quality; Trust; Consumer behaviour; Cross-channel retail; SERVQUAL; Customer satisfaction.***

I. INTRODUCTION

The retail landscape has undergone a profound transformation driven by the emergence and widespread adoption of online shopping channels. Traditional brick-and-mortar stores, long valued for personal interaction, product tangibility, and immersive shopping experiences, now coexist with pure-play online retailers that offer convenience, broad product choices, and flexible access. This dual-channel ecosystem requires retailers to understand how consumers perceive service quality and develop trust across digital and physical environments.

Trust and service quality are critical to purchase intention, satisfaction, and long-term loyalty. However, the mechanisms that generate trust differ across channels. In online environments, trust depends on interface usability, website design, security features, privacy assurance, and peer-generated content such as online reviews. In contrast, trust in physical stores is shaped by interpersonal communication, store ambience, product tangibility, and the behaviour and competence of sales staff.

Despite advancements in digital technologies—such as virtual try-ons, augmented reality, and high-definition product displays—consumers still experience uncertainty due to the absence of physical interaction. This highlights the importance of studying cross-channel differences in service quality perceptions. Against this backdrop, the present study examines how consumers evaluate service quality dimensions using the SERVQUAL framework and how trust is formed in online and offline retail contexts. By comparing pure-play online and brick-and-mortar retailing, this research provides insights into the factors shaping channel choice, confidence, and satisfaction.

II. REVIEW OF LITERATURE

Ratchford (2004) found that online retailers typically offer lower prices than brick-and-mortar stores, influencing channel preference. The study highlighted

that online product descriptions must be reliable and detailed to compensate for lack of physical inspection.
Gupta (2015) explored online vs. offline shopping in an Indian context, noting that consumers choose channels based on convenience, information availability and perceived value. Offline stores facilitate experiential evaluation, while online platforms provide comparison ease and detailed product information.
Kim et al. (2019) demonstrated that offline social interaction significantly increases purchase confidence by reducing uncertainty. Conversely, online shopping suffers from the lack of touch, trial, and human engagement, heightening perceived risk.
Kundu and Datta (2015) emphasized the central role of trust in online service quality. Security, privacy, and system reliability were identified as primary contributors to online trust and satisfaction.
Daniel (2014) found that SERVQUAL dimensions—reliability, responsiveness, tangibles, assurance, and empathy—impact satisfaction and loyalty across online and offline settings. The study highlighted the greater emphasis in online retail on system availability and fulfilment accuracy.
Hoo et al. (2024) examined online service quality for perishable goods and concluded that satisfaction occurs when expectations align with service outcomes. Online satisfaction hinges on accuracy, delivery reliability, and system efficiency, whereas offline satisfaction depends on store ambience and personal interaction.

III. OBJECTIVES OF THE STUDY

1. To compare consumer perceptions of service quality across online and physical retail channels using the SERVQUAL model.
2. To examine how trust is formed in online versus offline retail environments.
3. To identify key factors influencing channel preference and shopping behaviour.
4. To analyse the major determinants of customer satisfaction in pure-play and brick-and-mortar retailing.
5. To provide strategic recommendations for improving service quality and trust across retail channels.

IV. RESEARCH METHODOLOGY

This study adopts a descriptive research design to analyse and compare consumer perceptions of service quality and trust across online and brick-and-mortar retail channels. Primary data was collected from 156 respondents through a structured questionnaire containing Likert-scale and multiple-choice items covering service quality, trust indicators, decision-making factors, and satisfaction levels. A convenience sampling method was used due to ease of access to respondents.
The collected data was analysed using descriptive statistics, comparative analysis, and statistical tests such as the Chi-square test (to examine association between variables) and Pearson correlation (to identify relationships across satisfaction ratings). Graphs and tables were used to clearly present patterns and differences between the two retail formats. This methodology enabled a systematic evaluation of consumer behaviour and cross-channel service quality perceptions.

V. DATA ANALYSIS AND INTERPRETATION

TABLE 1- AGE DISTRIBUTION

Age Group	%	Count
18–24	57.69%	90
25–34	13.46%	21
35–44	17.31%	27
45+	11.54%	18
Total	100%	156

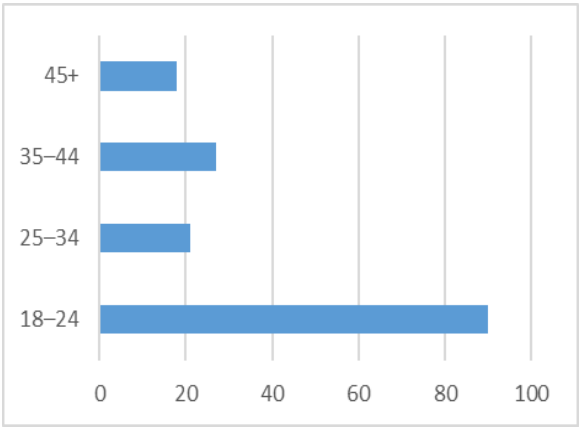

Figure 1 - AGE DISTRIBUTION

Interpretation
The sample is heavily dominated by young adults aged 18–24 (57.69%), meaning the insights strongly reflect the perceptions of younger consumers.

TABLE 2 – PREFERRED SHOPPING CHANNEL

Channel	%	Count
Both equally	57.05%	89
Online	16.03%	25
Offline	26.92%	42

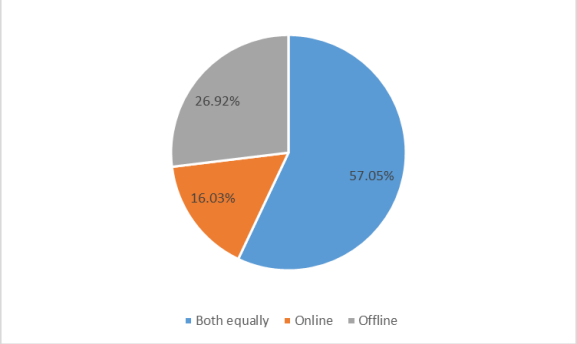

Figure 2-PREFERRED SHOPPING CHANNEL

Interpretation
Most respondents use both channels, confirming strong omnichannel behaviour.

TABLE 3 – PRICE PERCEPTION

Response	%	Count
Agree	41.03%	64
Disagree	10.26%	16
Neutral	31.41%	49
Strongly Agree	7.05%	11
Strongly Disagree	10.26%	16

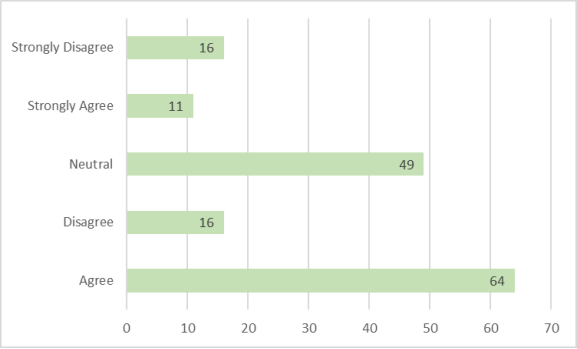

Figure 3-PRICE PERCEPTION

Interpretation
Majority believe online prices are lower, but many remain neutral — price perception is not uniform.

TABLE 4 – PRODUCT QUALITY ASSESSMENT (ONLINE)

Score	%	Count
1	5.59%	9
2	9.40%	15
3	46.31%	72
4	28.64%	45
5	10.07%	16

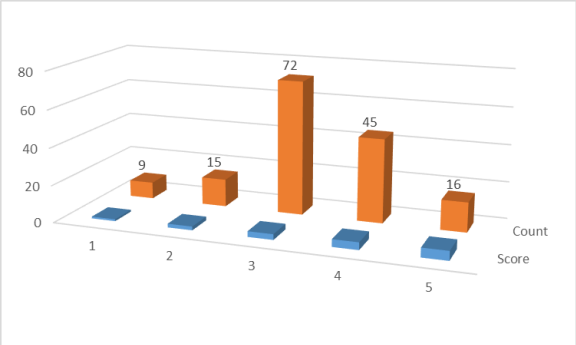

Figure 4-PRODUCT QUALITY ASSESSMENT (ONLINE)

Interpretation
A mid-level confidence: Score 3 dominates (46.31%). Consumers are unsure of online product quality without physical touch.

TABLE 5 – DECISION MAKING FACTORS

Factor	Count	%
Convenience	99	63.46%
Return policy	101	64.74%
Delivery speed	85	54.49%
Reviews	86	55.13%
Physical inspection	59	37.82%
Security	55	35.26%
Staff interaction	38	24.36%
Price	2	1.28%

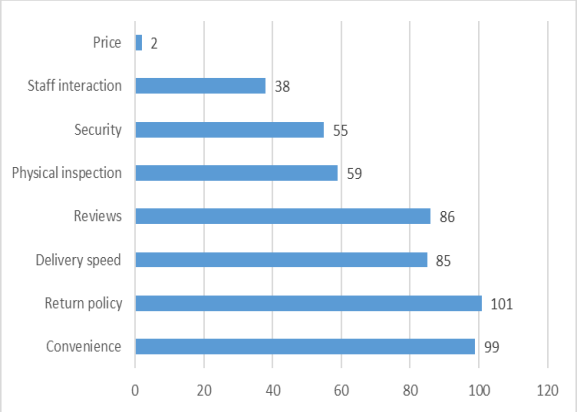

Figure 5-DECISION MAKING FACTORS

Interpretation

Convenience & return policy dominates. Price surprisingly influences only 1.28% → shoppers prioritize safety/convenience over price.

TABLE 6 – EFFECT OF LACK OF PHYSICAL INTERACTION

Score	%	Count
1	5.13%	8
2	8.33%	13
3	44.87%	70
4	27.56%	43
5	14.10%	22

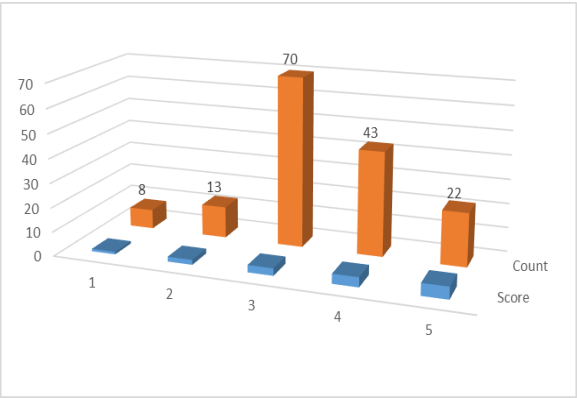

Figure 6-EFFECT OF LACK OF PHYSICAL INTERACTION

Interpretation

Physical interaction matters — about 41.7% (4 & 5) say it reduces confidence.

TABLE 7 – EFFECTIVENESS OF DIGITAL TOOLS

Score	%	Count
1	6.41%	10
2	10.90%	17
3	53.21%	83
4	19.23%	30
5	10.26%	16

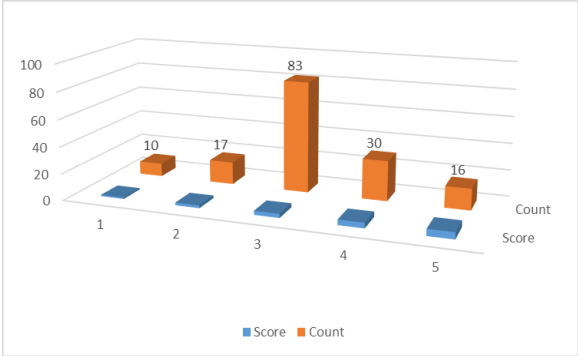

Figure 7-EFFECTIVENESS OF DIGITAL TOOLS

Interpretation

Most respondents are neutral — digital tools don't fully compensate for missing touch & feel.

TABLE 8 – HESITATION TO BUY ONLINE

Response	Count	%
No	47	30.13%
Yes	109	69.87%

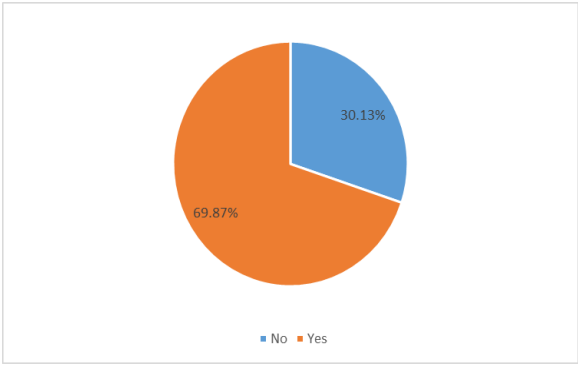

Figure 8-HESITATION TO BUY ONLINE

Interpretation

A high hesitation level (nearly 70%) due to trust, quality, and returns issues.

TABLE 9 – IMPORTANCE OF SECURE PAYMENT

Score	%	Count
1	3.85%	6
2	6.41%	10
3	41.03%	64
4	19.23%	30
5	29.49%	46

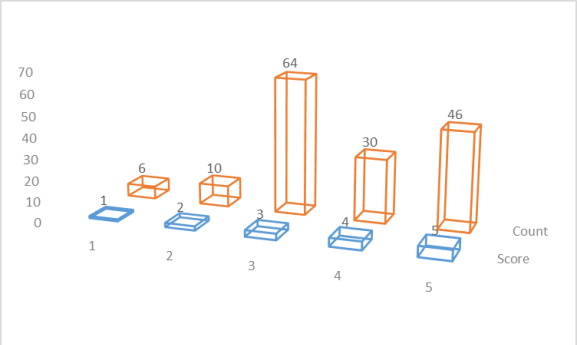

Figure 9-IMPORTANCE OF SECURE PAYMENT

Interpretation

Security is a major trust driver → Scores 3–5 dominate.

TABLE 10 – STAFF KNOWLEDGE / HELPFULNESS

Score	%	Count
1	3.85%	6
2	5.13%	8
3	40.38%	63
4	25.00%	39
5	25.64%	40

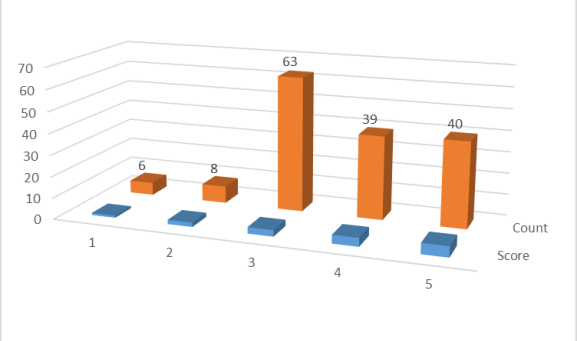

Figure 10-STAFF KNOWLEDGE / HELPFULNESS

Interpretation

Human interaction is a key offline trust builder.

TABLE 11 – IMPACT OF ONLINE REVIEWS

Score	%	Count
1	3.21%	5
2	8.33%	13
3	39.10%	61
4	30.13%	47
5	19.23%	30

Figure 11-IMPACT OF ONLINE REVIEWS

Interpretation

Reviews significantly shape online trust: ≈49% rate 4 or 5.

TABLE 12 – STORE TANGIBLES SATISFACTION

Category	%	Count
Very dissatisfied	2.56%	4
Dissatisfied	1.92%	3
Neutral	50.64%	79
Satisfied	30.13%	47
Very satisfied	14.74%	23

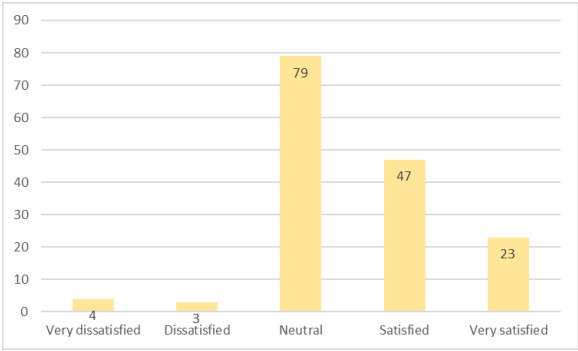

Figure 12–– STORE TANGIBLES SATISFACTION

Interpretation

Customer satisfaction towards tangibles is very high with 44.8% satisfied or very satisfied. While there has been a higher percentage of neutral respondents denoting that tangibles are acceptable, they are often not extra ordinary.

TABLE 13 – WEBSITE DESIGN SATISFACTION

Category	%	Count
Dissatisfied	3.85%	6
Neutral	60.26%	94
Satisfied	26.92%	42
Very Satisfied	8.97%	14

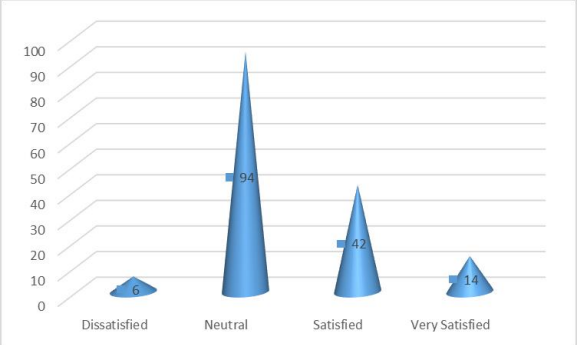

Figure 13-WEBSITE DESIGN SATISFACTION

Interpretation

Comparing figures 12 and 13 reveals that the physical stores achieve higher satisfaction (44.8%) with their tangible environment while online retailers see a majority (60.3%) of consumers remaining neutral about website design. This suggests the physical stores' tangibles successfully convert to satisfaction, whereas online design merely meets expectations.

TABLE 14 – Reliability (Online Stores & Physical Stores)

Category	Percentage	Online stores	Percentage	Physical Stores
Average	44.23%	69	32.69%	51
Good	41.67%	65	44.87%	70
Poor	6.41%	10	2.56%	4
Very good	4.49%	7	16.67%	26
Very poor	3.21%	5	3.21%	5
Total	100%	156	100%	156

Figure 14-Reliability (Online Stores & Physical Stores)

Interpretation

Physical stores are ranked higher in service reliability with a strong majority rating them “good” or “very good”. While online retails are rated highly show a larger proportion of “average”, indicating a gap in consistent service delivery.

TABLE 15 – Responsiveness of service (Physical Stores & Online stores)

Category	Percentage	Physical Stores	Percentage	Online Stores
Dissatisfied	5.77%	9	7.05%	11
Neutral	43.59%	68	57.05%	89
Satisfied	26.28%	41	27.56%	43
Very dissatisfied	6.41%	10	2.56%	4
Very satisfied	17.95%	28	5.77%	9
Total	100%	156	100%	156

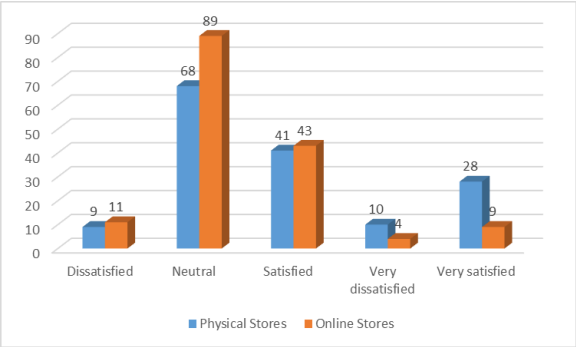

Figure 15-Responsiveness of service (Physical Stores & Online stores)

Interpretation

Consumers are highly neutral about responsiveness in both channels (physical: 44.9%, online: 57%) suggesting responsiveness is an underperforming

service dimension across both the channels. The satisfaction levels in both the channels are identical, showing no channel winner.

TABLE 16 – Assurance (Physical Stores & Online Stores)

Category	Percentage	Physical Stores	Percentage	Online stores
Extremely assured	21.79%	34	5.77%	9
Very assured	31.41%	49	19.23%	30
Moderately assured	30.77%	48	50.64%	79
Slightly assured	10.90%	17	21.79%	34
Not at all assured	5.13%	8	2.56%	4
Total	100%	156	100%	156

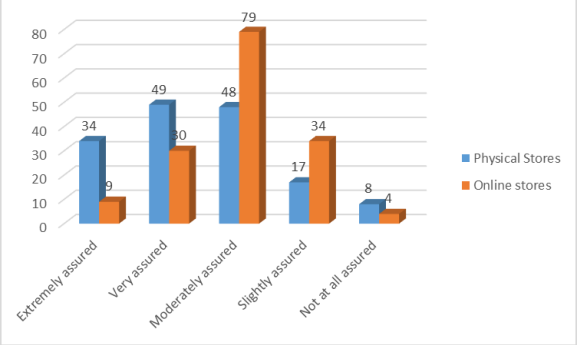

Figure 16-Assurance (Physical Stores & Online Stores)

Interpretation

Physical stores with over 60% feeling "assured" or "extremely assured" compared to only 25% for online retailers. This gap reflects higher consumer confidence in safety and security of offline transactions

TABLE 17 – Empathy (Physical Stores)

Score	Percentage	Count
1	1.30%	2
2	8.29%	13
3	57.04%	89
4	24.38%	38
5	8.99%	14
Total	100%	156

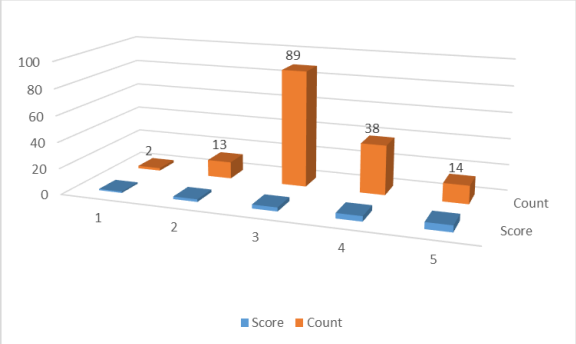

Figure 17-Empathy (Physical Stores)

Interpretation

Customers generally do not see a major gap in empathy between the two formats. However, a significant portion still perceives physical stores as more empathetic, likely due to personal interaction. The low negative responses indicate that physical stores maintain a positive emotional image, even in a digital age.

TABLE 18 – Information Quality (Online Stores)

Category	Percentage	Count
Very dissatisfied	3.20%	5
Dissatisfied	7.70%	12
Neutral	60.90%	95
Satisfied	22.40%	35
Very satisfied	5.80%	9
Total	100%	156

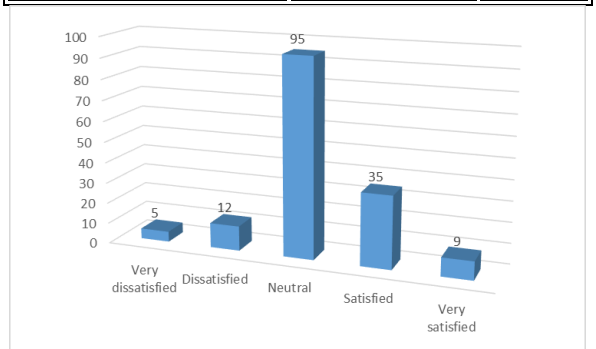

Figure 18-Information Quality (Online Stores)

Interpretation

Online stores provide information that customers generally find acceptable, but not outstanding. The high neutral score suggests a need for:

- Better product descriptions
- More transparency

- Clear specifications
- Improved FAQs, visuals, and real customer reviews

Chi-Square Test (Physical vs Online Overall Satisfaction)

Purpose: To test whether satisfaction levels differ significantly between Physical Stores and Online Stores.

Table 19: Overall Satisfaction Data (Physical vs Online Stores)

Category	Physical	Online
Very dissatisfied	0	1
Dissatisfied	2	4
Neutral	71	90
Satisfied	58	45
Very satisfied	25	16
Total	156	156

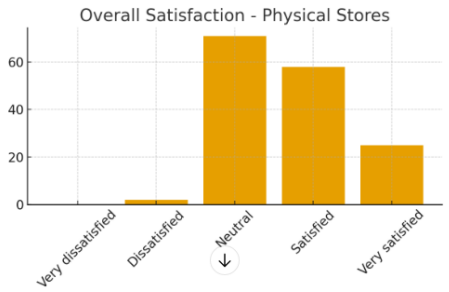

Figure 19-Overall satisfaction - Physical Stores

Figure 20-Overall satisfaction - Online Stores

Result

- Chi-square value: 7.525
- Degrees of freedom: 4
- p-value: 0.1106

Interpretation

Since $p > 0.05$, the difference in overall satisfaction is not statistically significant.

This means that although physical stores *appear* more satisfying, the difference is not strong enough to be statistically proven.

Pearson Correlation (Ordinal Satisfaction Scores)

Ordinal scores were expanded into individual responses.

Result

- Correlation coefficient (r): 0.843
- p-value: 2.66×10^{-43}

Interpretation

There is a very strong positive correlation between the distribution patterns of satisfaction between physical and online stores.

This means:

➡️ Respondents who rate one format a certain way tends to rate the other format in a similar pattern (e.g., neutral remains dominant for both).

VI. FINDINGS

Based on the analysis of 156 responses, the following key findings emerged:

1. Omni channel Behaviour Dominates

A majority (57%) of consumers use both online and offline channels, indicating strong cross-channel shopping behaviour.

2. Price Perception Favour's Online Retail

Nearly half the respondents perceive online prices to be lower, although a large neutral response suggests mixed experiences.

3. Product Quality Confidence is Lower Online

Consumers show reduced confidence in assessing product quality online because of the lack of physical touch, with 41.7% stating it significantly affects trust.

4. Digital Tools Are Not Fully Trusted

Despite technological advancements such as AR and videos, 53% remain neutral on their effectiveness, indicating limited trust in digital substitutes.

5. Trust Determinants Differ by Channel

- Online trust is built mainly through secure payments, privacy, and peer reviews.
- Offline trust depends on knowledgeable staff, physical inspection, and store ambience.

6. Service Quality Gaps Exist in Both Channels

Responsiveness and empathy receive high neutral ratings (over 50% in many cases), indicating room for improvement in both retail formats.

7. Reliability and Assurance Stronger in Physical Stores

Physical stores outperform online retailers in reliability and assurance, with consumers feeling safer and more confident during offline transactions.

8. Information Quality is Moderate Online

Over 60% of consumers provide a neutral rating for online information quality, highlighting inconsistency in accuracy and completeness.

9. Overall Satisfaction is Higher in Physical Stores

- Physical Stores: 53.2% satisfied or very satisfied
- Online Stores: 39.1% satisfied or very satisfied

Neutral responses dominate in both, indicating average service experiences.

10. Statistical Tests Confirm Channel Differences

- Chi-square test: No statistically significant difference in satisfaction levels across channels ($p > 0.05$).
- Pearson correlation: Strong positive relationship ($r = 0.843$) indicating similar rating patterns across channels.

VII. SUGGESTIONS

A. Suggestions for Online Retailers

1. Enhance Information Quality
   Provide accurate, detailed, and verified product descriptions, visuals, and specifications.
2. Strengthen Secure Payment Systems
   Improve encryption, privacy features, and transparent return/refund policies.
3. Integrate High-Quality Digital Interaction Tools
   Use 360° images, augmented reality, virtual try-on, and product comparison tools to improve product evaluation.
4. Improve Responsiveness
   Offer reliable 24/7 customer support via live chat, AI bots, and quick email/phone responses.
5. Leverage Online Reviews
   Highlight authentic customer reviews and ratings to build trust.

B. Suggestions for Physical Stores

1. Enhance Staff Training
   Improve staff knowledge, politeness, empathy, and customer handling skills.
2. Improve Store Ambience and Tangibles
   Maintain cleanliness, organized layouts, and aesthetic appeal to enhance customer satisfaction.
3. Ensure Reliability and Assurance
   Maintain stock availability, predictable service, and transparent billing processes.
4. Adopt Digital Integration
   Combine offline strengths with online convenience through click-and-collect, digital catalogues, and real-time stock updates.

C. Strategic Cross-Channel Recommendations

1. Create Seamless Omnichannel Experiences
   Integrate online and offline data to provide consistent pricing, promotions, and service.
2. Address Service Gaps in Responsiveness and Empathy
   Both channels should focus on timely issue resolution and personalized customer engagement.
3. Strengthen Trust at Every Touchpoint
   Transparency, clear communication, and reliable services must be standard across both channels.
4. Regularly Monitor Customer Feedback
   Continuous feedback loops help identify service gaps early and improve satisfaction.

VIII. CONCLUSION

This study reveals clear distinctions in how consumers evaluate service quality and trust in online and physical retail formats. Physical stores consistently outperform online retailers in trust-building dimensions such as assurance, reliability, and product quality—primarily due to the availability of physical interaction and human engagement. Online retailers, despite offering convenience and accessibility, face persistent trust barriers arising from the inability to physically examine products and variable information quality.

Both channels show weaknesses in responsiveness and empathy, demonstrated by the large proportion of neutral responses. The findings highlight the need for online retailers to enhance information accuracy, security features, and digital interaction tools, while physical stores must improve staff knowledge, empathy, and store environment to sustain their competitive advantage. Ultimately, retail success lies in integrating the strengths of both channels to create

a seamless, trustworthy, and high-quality customer experience.

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