Print ISSN: 1738-3110 / Online ISSN 2093-7717
JDS website: http://accesson.kr/jds
http://doi.org/10.15722/jds.23.12.202512.55

# The Impact of Service Marketing Mix, Digital Transformation and Logistics on Customer Satisfaction and Competitive Advantage in Live Streaming E-Commerce Strategy

**Weichao QIU[1], Chonlavit SUTUNYARAK[2]**

**Received: September 03, 2025. Revised: September 23, 2025. Accepted: December 05, 2025**.

## Abstract

**Purpose:** This study examines the combined effects of the service marketing mix (7Ps), digital transformation, and logistics service quality on customer satisfaction and competitive advantage within live streaming e-commerce, aiming to clarify the mechanisms and pathways through which firms convert service design and digital investments into distinctive market positions. **Research design, data and methodology:** A cross-sectional online survey generated 527 valid responses from active live-stream shoppers; a second-order reflective measurement model was specified and evaluated and Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to assess measurement reliability and validity (including indicator loadings, composite reliability, and convergent/discriminant validity) and to estimate structural paths. **Results:** The three antecedents each exert statistically significant and practically meaningful positive effects on customer satisfaction, and customer satisfaction significantly mediates their impact on competitive advantage; robustness checks support the stability of the model. **Conclusions:** Managers should pursue integrated initiatives that align service marketing, digital capability building, and logistics performance improvements, prioritizing cross-functional coordination and resource allocation to enhance customer experience, invest in personalization and real-time interaction tools, and secure sustainable competitive advantage in live streaming e-commerce, and future studies should adopt longitudinal designs and examine platform heterogeneity and boundary conditions and practical constraints.

**Keywords :** Service Marketing Mix, Digital Transformation, Logistics Service Quality, Customer Satisfaction, PLS-SEM

**JEL Classification Code**: D20, O33, L81

## 1. Introduction

The accelerated advancement of online technologies, along with the widespread adoption of mobile devices, has fueled the rapid growth of live streaming e-commerce (LSC), a novel form of social commerce that integrates live video interaction with web-based purchasing. According to the Global Live Streaming Market Research Report (CM Research, 2024), the global live streaming sector is expected to expand from USD 93.13 billion in 2023 to USD 628.78 billion by 2032, representing a compound annual growth rate (CAGR) of 23.64%. In China, the livestreaming

1 First Author. Ph.D. Candidate, Chakrabongse Bhuvanarth International College of Interdisciplinary Studies, Rajamangala University of Technology Tawan-ok, Thailand. Email: weichao.qiu@rmutto.ac.th
2 Corresponding Author. Ph.D., Professor and Doctoral Supervisor, Chakrabongse Bhuvanarth International College of Interdisciplinary Studies, Rajamangala University of Technology Tawan-ok, Thailand. Email: chonlavit_su@rmutto.ac.th

industry has also demonstrated remarkable growth. The China Online Livestreaming Industry Panorama Report (Forward Industry Research Institute, 2024) noted that the market size reached RMB 209.5 billion in 2023, reflecting a 5.15% increase from 2022. Moreover, by the end of 2023, the total number of internet users in China reached 1.092 billion, with 816 million participating in livestreaming activities. Among them, 597 million engaged specifically in e-commerce livestreaming, accounting for 73.2% of all livestreaming users (China Internet Network Information Center [CNNIC], 2024).

Live streaming commerce provides consumers with an immersive, real-time shopping experience that transcends spatial and temporal boundaries. Unlike traditional e-commerce models, LSC emphasizes interactivity, immediacy, and social presence, which helps reduce information asymmetry, build consumer trust, and enhance purchase certainty and satisfaction (Kang et al., 2021; Wang et al., 2022; Zheng et al., 2022). Through live showcases, immediate product Q&A, and the influence of charismatic streamers, LSC simulates offline retail experiences in an online environment, thereby enhancing consumer engagement and purchase intention (Huo et al., 2023).

With its increasing penetration—rising from 4.9% in 2019 to 37.8% in 2023 (Qu et al., 2023) —live streaming has become a dominant channel for online retail in China. However, competition in this sector is intensifying, and maintaining a sustainable competitive advantage remains a significant challenge. In the LSC context, consumer behavior is shaped not only by personal needs but also by multiple social and technological factors such as influencer appeal, interactive environments, peer feedback, and platform algorithms (Wongkitrungrueng & Assarut, 2020). These complex decision-making dynamics highlight the necessity of understanding the interplay between technological and service factors in shaping consumer satisfaction and driving business competitiveness.

Among these factors, customer contentment constitutes a vital determinant of sustaining consumer fidelity and generating positive word-of-mouth, both of which are critical for brand growth and market share expansion (Al-Adwan et al., 2022). Existing research suggests that customer satisfaction in LSC is markedly impacted by multiple dimensions, including the service marketing mix (7Ps) (Othman et al., 2021), digital transformation initiatives (Demirel, 2022), and logistics service quality (Zhu & Liu, 2023). For example, real-time interaction, personalized recommendations, secure payment systems, and reliable logistics fulfillment directly contribute to better shopping experiences and overall satisfaction levels.

From a strategic perspective, incorporating the service marketing's 7Ps—product, price, place (platform), promotion (real-time marketing), people (streamers and customer service), process (seamless shopping and post-sale service), and physical evidence (live setting and visual display)—is critical for delivering superior customer experience in LSC environments (Ho et al., 2022). Furthermore, digital transformation innovations including data analytics and AI-enabled recommendation systems, and AR-enabled product trials are reshaping how platforms personalize content and optimize user experiences (Krakowski et al., 2023). Another crucial determinant of satisfaction and competitive advantage is logistics performance. Timely delivery, real-time tracking, easy return policies, and responsive after-sales services have become essential in influencing consumer perceptions of reliability and trust (Kawa & Zdrenka, 2024). The efficiency of logistics operations both improves customer satisfaction and reinforces a firm's reputation in an increasingly competitive and fast-paced market.

Although prior studies have explored specific factors affecting consumer behavior in livestreaming commerce—such as interactivity, personalization, or logistics—few have investigated how the service marketing mix, digital transformation, and logistics capabilities jointly influence customer satisfaction and long-term competitive advantage in a comprehensive framework. Moreover, the mechanisms through which these dimensions interact to shape customer experience in the dynamic Chinese livestreaming e-commerce market remain underexplored.

This study addresses a critical gap by developing an integrative framework that examines how the service marketing mix, digital transformation, and logistics service quality jointly influence customer satisfaction and competitive advantage in live streaming commerce. Unlike prior research, which typically investigates these factors independently, this study captures their synergistic interactions and empirically tests how they collectively shape consumer experience and strategic outcomes. By integrating these three dimensions within a single framework, it advances theoretical understanding of customer behavior in live streaming commerce, offers validated measures for key constructs, and provides actionable guidance for platform managers seeking to optimize coordinated operational and strategic decisions.

The primary objectives are threefold: (1) to explore the interrelationships among the service marketing mix, digital transformation, and logistics service quality and their effects on customer satisfaction and competitive advantage, (2) to design a unified conceptual framework that integrates these constructs into a coherent causal model; and (3) to empirically test the proposed framework using survey data and partial least squares structural equation modeling (PLS-SEM). Academically, it deepens insight into customer behavior and market dynamics in LSC by integrating marketing, digital, and logistics perspectives, and offers

validated measurement tools for key constructs. Practically, it provides actionable insights for platforms to enhance strategic decision-making, optimize technological and service operations, and improve logistics coordination. The following chapters present a comprehensive literature review, research model and hypotheses, methodology, empirical results, along with a discussion of theoretical implications and managerial recommendations, aiming to build a meaningful bridge between theory and practice.

## 2. Review of Literature and Hypothesis Formulation

### 2.1. Service Marketing Mix and Customer Satisfaction

The marketing mix concept, initially proposed by Borden (1964) and refined by Perreault and McCarthy (2002) as the 4Ps—Product, Price, Place, and Promotion—has long been a basic framework in marketing. However, the distinct features of services, for instance, intangibility and simultaneity (Zeithaml et al., 1985), challenged the traditional 4Ps, prompting the expansion to the 7Ps model by Lovelock and Patterson (2015), which adds People, Physical Evidence, and Process to better capture service-specific dynamics.

This 7Ps framework is extensively utilized in diverse service contexts, covering the rapidly growing LSC sector, where live interaction and immersive experiences are core features (Ho et al., 2022; Wongsunopparat & Deng, 2021). In this environment, the integrated marketing mix elements shape customer perceptions and behaviors, thus influencing satisfaction outcomes.

Product quality and presentation, especially the clarity and engagement in live demonstrations, are crucial for meeting customer expectations (Wongsunopparat & Deng, 2021). Price strategies in live e-commerce rely on dynamic adjustments and promotions such as flash sales, which drive urgency but require careful management to maintain brand trust (Ji et al., 2023). Promotion activities leverage interactive tools and influencer endorsements to enhance engagement and trust (Wongkitrungrueng & Assarut, 2020). The Place element emphasizes seamless and accessible distribution, reducing friction in the purchase process (Yang et al., 2024). People, notably the professionalism and charisma of anchors, serve an important function in closing the gap between products and customers (Zhou et al., 2021). Physical Evidence such as studio aesthetics and interface design create trust and reduce perceived risk (Xu et al., 2020). Finally, process management, including efficient order handling and after-sales service, reinforces positive customer experiences (Zhang et al., 2021).

Research consistently shows that these elements not only impact customer satisfaction individually but their synergy significantly enhances customer pleasure and loyalty (Othman et al., 2021). In LSC, this integration is amplified by the platform's real-time interactivity and immersive features (Chen et al., 2022).

Thus, the present study puts forward the hypothesis:

**H1:** The Service Marketing Mix (7Ps) positively influences Customer Satisfaction.

### 2.2 Digital Transformation and Customer Satisfaction

DT relates to the merging and application of digital technologies by enterprises to innovate operational processes, organizational frameworks, and business models, thereby enhancing operational efficiency and customer experience (Paul et al., 2024). Technology integration, including cloud computing, big data, and AI, not only optimizes internal resource allocation but also strengthens the ability to respond accurately to customer needs (Xie & Wang, 2023). Meanwhile, digital transformation enhances user interaction by improving customer engagement and satisfaction through real-time communication and personalized recommendations (Hagberg et al., 2016).

Extensive research indicates that digital transformation significantly promotes customer satisfaction (Tam et al., 2020). TAM emphasizes that users' perceived functionality and perceived ease in using digital technologies substantially affect customer contentment (Venkatesh et al., 2016). In emerging business strategies encompassing LSC, platforms improve user shopping efficiency and trust by enhancing technological stability, optimizing interactive experiences, and providing personalized services (Limna et al., 2023). Furthermore, digitally driven business model innovations, including social media marketing and time-limited promotions, also positively impact customer satisfaction (Othman et al., 2021).

In summary, digital transformation optimizes customer experience and enhances satisfaction through the dual pathways of technological empowerment and business model innovation, thereby creating sustainable competitive advantages for enterprises. Accordingly, the subsequent hypothesis is proposed:

**H2:** Digital transformation positively influences customer satisfaction.

### 2.3 Logistics Service Quality and Customer Satisfaction

In the fiercely competitive market environment, logistics service quality (LSQ) is acknowledged as a crucial contributor to customer satisfaction and competitive advantage sustainability (Zeithaml et al., 2018). LSQ not

only ensures the timely and accurate delivery of goods but also significantly impacts customers' overall shopping experiences, particularly in LSC where purchasing choices are made rapidly on the basis of hosts' recommendations. The timely, accurate, and transparent execution of logistics processes fosters consumer trust and satisfaction, enhancing loyalty and market competitiveness (Mentzer et al., 1999).

Conceptually, LSQ integrates both physical distribution (timeliness, product condition) and customer service dimensions (information quality, responsiveness) (Murfield et al., 2017). Modern research emphasizes customer perceptions over mere operational metrics, underscoring the importance of real-time order tracking, effective discrepancy handling, and proactive communication as essential to improving satisfaction (Wang et al., 2024). The adoption of comprehensive LSQ models adapted to e-commerce contexts highlights the evolving nature of logistics services, focusing on availability, transparency, and interaction quality (Kawa & Zdrenka, 2024; Zhang et al., 2022).

Empirical studies affirm that high LSQ contributes to enhanced customer satisfaction and loyalty across industries and geographies. Research in live e-commerce contexts confirms that timeliness and logistics information transparency notably enhance consumers' shopping experiences and trust, mitigating uncertainty inherent in fast-paced purchasing decisions (Jahanbakhsh Javid & Amini, 2023). Furthermore, superior LSQ supports competitive advantage by enabling firms to differentiate themselves through superior service quality and customer relationship management (Oliver, 1980).

Drawing on extensive theoretical and empirical evidence, the present study puts forward the following hypothesis:

**H3:** Logistics service quality positively affects customer satisfaction.

## 2.4. Customer Satisfaction and Competitive Advantage

Customer Satisfaction (CS) reflects the overall judgment by consumers regarding their experience with a product or service, encompassing both cognitive judgments and emotional responses (Rehman et al., 2022). Extensive research demonstrates that CS is a critical driver of customer loyalty and repurchase intentions, thereby enhance the firm's market advantage through favorable word-of-mouth and enhanced market share (Al-Adwan et al., 2022). Within the dynamic LSC context, customer satisfaction is particularly crucial. Platforms leverage real-time interaction, personalized recommendations, and social engagement to provide differentiated shopping experiences that heighten emotional involvement and satisfaction (Yao et al., 2024). Satisfied customers not only improve retention and reduce acquisition costs but also help firms build sustainable competitive advantages.

Empirical evidence consistently supports a favorable association between customer satisfaction and competitive advantage. To illustrate, Pei et al. (2020) found that both digital and physical shopping satisfaction contribute to enduring competitive edge. Saeidi et al. (2015) demonstrated that improving customer satisfaction improves corporate reputation and indirectly boosts firm performance and market position. Additionally, Arslan (2020) emphasized that satisfied customers exhibit stronger loyalty and more favorable word-of-mouth than average customers, which is vital for the long run business growth.

Drawing on this theoretical and empirical foundation, this study proposes:

**H4:** Customer satisfaction positively influences the competitive advantage of LSC platforms.

## 2.5. Mediating Role of Customer Satisfaction

Customer satisfaction not only exerts direct influence on competitive advantage but also serves as a crucial mediator in the relationship between antecedent factors—like service marketing mix, digital transformation, and logistics service quality—and competitive advantage. Acting as a core psychological and behavioral construct, customer satisfaction bridges firms' operational strategies and their market outcomes by translating consumer experiences into loyalty and advocacy (Al-Adwan et al., 2022).

First, SMM (7Ps) significantly shapes CS by holistically affecting product quality, pricing, promotion, place, people, process, and physical evidence (Rohit et al., 2025). These components directly enhance consumers' emotional and cognitive evaluations, which in turn influence loyalty and competitive positioning. Prior studies highlight that well-executed marketing strategies improve satisfaction levels, which then foster sustained competitive advantages through repurchase behavior and favorable word-of-mouth (Pei et al., 2020). Therefore, it is reasonable to expect that CS mediates the impact of SMM on CA.

Second, DT, reflected in personalized recommendations, intelligent marketing, and platform stability, enhances CS by improving convenience, engagement, and confidence in LSC (Tam et al., 2020). Enhanced digital capabilities foster richer consumer experiences, leading to stronger satisfaction and, subsequently, competitive advantage (Masoud & Basahel, 2023). This suggests that DT indirectly strengthens CA via the mediating effect of CS.

Third, LSQ—encompassing delivery speed, transparency, and after-sales services—is critical for live streaming e-commerce platforms to meet consumers' high expectations (Zennaro et al., 2022). Efficient logistics

improve perceived value and satisfaction, which positively impact customer loyalty and market competitiveness (Kawa & Światowiec-Szczepańska, 2021). Accordingly, CS is expected to mediate the relationship between LSQ and CA.

Grounded in the existing theoretical and empirical evidence, the following hypotheses are put forward:

**H5:** Customer satisfaction mediates the relationship between the service marketing mix and competitive advantage.

**H6:** Customer satisfaction mediates the relationship between digital transformation and competitive advantage.

**H7:** Customer satisfaction mediates the relationship between logistics service quality and competitive advantage.

### 2.6. Conceptual Framework

The conceptual framework of this study examines the interrelationships among five second-order latent constructs in LSC: service marketing mix (SMM), digital transformation (DT), logistics service quality (LSQ), and competitive advantage (CA).

Each second-order construct is composed of multiple first-order dimensions. SMM includes product, price, promotion, place, people, physical evidence, and process; DT comprises technology integration, user interactivity, personalized recommendation, and business model innovation; LSQ encompasses timeliness, order condition, order accuracy, and order discrepancy handling, while CA comprises price/cost, differentiation/perceived unique value, customer loyalty, and responsiveness.

This hierarchical structure integrates multiple first-order dimensions under broader constructs, offering a clear and comprehensive representation of how marketing, digital, and logistical factors relate to customer satisfaction and competitive advantage in LSC (see Figure 1).

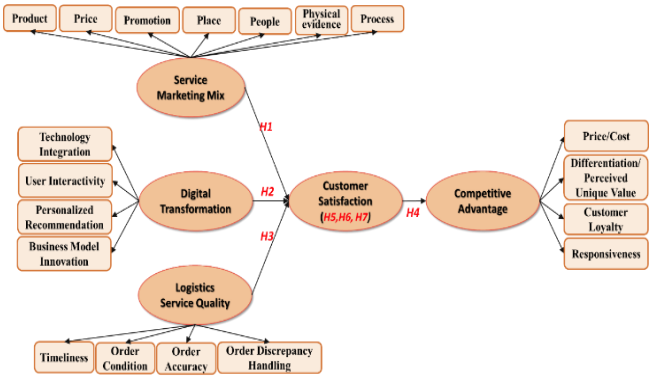


**Figure 1:** Conceptual Framework

## 3. Methodology

This study employed a quantitative research design to examine the relationships among SMM, DT, LSQ, CS, and CA in LSC. Data were collected via an online survey targeting experienced LSC users. A reflective-reflective second-order hierarchical component model was estimated using PLS-SEM. Following Becker et al. (2012), the repeated indicators approach was applied to form second-order constructs by aggregating first-order dimensions linked to their corresponding manifest indicators. This procedure allowed multidimensional constructs to be modeled accurately while maintaining interpretability. Measurement and structural parameters, including first- and second-order loadings and path coefficients, were simultaneously estimated. A non-parametric bootstrap with 5,000 resamples generated standard errors and t-values for hypothesis testing. The hierarchical modeling process is illustrated in Appendix 1.

Measurement items were adapted and refined from prior research to fit the LSC context, rather than directly adopting existing validated scales. All items were rated on a five-point Likert scale (1 = "strongly disagree" to 5 = "strongly agree"). Content validity was ensured through review by five experts in management and marketing, and a pilot study with 100 experienced LSC consumers led to minor adjustments to improve clarity and contextual relevance. The final survey was distributed online via Wenjuanxing and promoted on Xiaohongshu, Douyin, and WeChat, targeting only respondents with prior LSC experience. Of 624 returned questionnaires, 527 were valid, yielding an 84.5% effective response rate. Detailed survey items are provided in Appendix 2.

## 4. Data Analysis and Findings

### 4.1. Descriptive Statistics Assessment

The demographic profiles of the 527 valid respondents, summarized in Table 1, indicate that the sample was distributed across various respondent categories, encompassing diverse gender, age, education etc. These results demonstrate that the sample meets the requirements for data diversity and representativeness.

**Table 1:** Descriptive Statistics of Respondents' Demographic Information (n=527)

| Statistical content | Options | No. of persons | Percentage (%) |
|---|---|---|---|
| Gender | Male | 191 | 36.2 |
| | Female | 336 | 63.8 |
| Age | 21-30 | 96 | 18.2 |
| | 31-40 | 198 | 37.6 |

| Statistical content | Options | No. of persons | Percentage (%) |
|---|---|---|---|
| | 41-50 | 113 | 21.4 |
| | 51-59 | 87 | 16.5 |
| | 60 and above | 33 | 6.3 |
| Education | High school (including vocational or technical school) or below | 16 | 3.0 |
| | Associate degree | 121 | 23.0 |
| | Bachelor's degree | 329 | 62.4 |
| | Master's degree | 61 | 11.6 |
| Income | Less than 3000 RMB | 57 | 10.8 |
| | 3001-5000 RMB | 190 | 36.1 |
| | 5001-10000 RMB | 241 | 45.7 |
| | More than 10000 RMB | 39 | 7.4 |
| Frequency | Less than once a month | 101 | 19.2 |
| | 1-3 times a month | 142 | 26.9 |
| | 1-2 times a week | 195 | 37.0 |
| | Daily or almost daily | 89 | 16.9 |
| Platform | Tiktok | 257 | 48.8 |
| | Diantao (Taobao Live) | 137 | 26.0 |
| | Kuaishou | 122 | 23.1 |
| | Other | 11 | 2.1 |
| Expenses | Less than 100 RMB | 64 | 12.1 |
| | 100-500 RMB | 107 | 20.3 |
| | 501-1000 RMB | 162 | 30.7 |
| | 1001-2000 RMB | 147 | 27.9 |
| | More than 2000 RMB | 47 | 8.9 |

Core constructs—customer satisfaction (CS) and competitive advantage (CA1–CA4)—showed moderately positive mean scores (3.425–3.559) with moderate variability (SD = 1.124–1.237), suitable for subsequent modeling and hypothesis testing (Table 2).

**Table 2:** Descriptive Statistics for Customer Satisfaction and Competitive Advantage(n=527)

| Variable | Min | Max | Mean | Std. Deviation |
|---|---|---|---|---|
| Customer Satisfaction (CS) | 1.0 | 5.0 | 3.425 | 1.181 |
| Competitive Advantage – Price/Cost (CA1) | 1.0 | 5.0 | 3.523 | 1.214 |
| Competitive Advantage – Differentiation (CA2) | 1.0 | 5.0 | 3.555 | 1.237 |
| Competitive Advantage – Loyalty (CA3) | 1.0 | 5.0 | 3.544 | 1.208 |
| Competitive Advantage – Responsiveness (CA4) | 1.0 | 5.0 | 3.559 | 1.124 |

## 4.2. Common Method Bias

If research information is gathered from one source or through uniform measurement procedures, common method bias (CMB) may be present, capable of artificially inflating the observed relationships linking independent and dependent variables. To mitigate this concern, this research conducted a systematic assessment of potential CMB.

The first diagnostic was Harman's single-factor test (Podsakoff et al., 2003), performed through unrotated principal component analysis on all measured variables. The analysis examined both the extracted factor count and the variance captured by the first factor. A common threshold is that if the initial factor represents under 40% of the overall variance, the influence of CMB is minimal. In our analysis, the initial extracted factor explained 33.768% of the variance, which doesn't exceed 40%, while the cumulative variance explained by all extracted factors exceeded 60%. These results indicate that CMB doesn't present a substantial risk to the validity within the present study.

In addition to statistical testing, procedural remedies were applied during questionnaire design, such as refining item wording and varying scale anchors to reduce the likelihood of systematic response bias. Collectively, the procedural and statistical evidence supports the conclusion that CMB does not substantially influence the findings of this research.

## 4.3. Measurement Model Assessment

Before analyzing the structural relationships among latent constructs, the measurement model was rigorously tested to ensure the reliability and validity of the measures used in this study. This evaluation examined item loadings, construct reliability, as well as convergent and discriminant validity at both the first- and second-order levels. Given the adoption of the indicator averaging approach to develop higher-order constructs, the measurement models at both levels were assessed following established PLS-SEM guidelines (Hair et al., 2019), laying a robust groundwork for the ensuing structural model analysis.

Regarding reliability, For all latent constructs, Cronbach's alpha fell between 0.730 and 0.887, and the composite reliability (CR) values were above the suggested cut-off of 0.70 (Hair et al., 2019), thereby demonstrating satisfactory internal consistency (see table 3). Indicator loadings were statistically significant and above 0.70 (Hair et al., 2019), with the lowest loading at 0.820, indicating that measured variables adequately reflect their respective latent variables. All AVE estimates were above the 0.50 benchmark (minimum = 0.689), thereby satisfying the criterion for convergent validity and confirming that each construct explains a substantial proportion of variance in its indicators. These results collectively confirm the model's reliability, convergent validity, and explanatory power (detailed in table 3).

**Table 3:** Properties in Null Model for First-Order Constructs (n=527)

| Construct | CR | CA | AVE | Factor Loading Range |
|---|---|---|---|---|
| Product | 0.899 | 0.832 | 0.748 | 0.859 – 0.871 |
| Price | 0.893 | 0.761 | 0.807 | 0.898 – 0.899 |
| Place | 0.891 | 0.756 | 0.804 | 0.890 – 0.903 |
| Promotion | 0.906 | 0.793 | 0.829 | 0.91 |
| People | 0.906 | 0.844 | 0.763 | 0.870 – 0.876 |
| Physical Evidence | 0.897 | 0.829 | 0.745 | 0.852 – 0.873 |
| Process | 0.89 | 0.752 | 0.801 | 0.888 – 0.902 |
| Technology Integration (TI) | 0.895 | 0.824 | 0.739 | 0.850 – 0.878 |
| User Interface (UI) | 0.914 | 0.858 | 0.779 | 0.881 – 0.886 |
| Personalized Recommendations (PR) | 0.917 | 0.865 | 0.787 | 0.883 – 0.891 |
| Business Model Innovation (BMI) | 0.921 | 0.872 | 0.796 | 0.888 – 0.896 |
| Timeliness (TL) | 0.887 | 0.808 | 0.723 | 0.820 – 0.866 |
| Order Condition (OC) | 0.899 | 0.776 | 0.817 | 0.903 – 0.905 |
| Order Accuracy (OA) | 0.881 | 0.73 | 0.788 | 0.886 – 0.889 |
| On-time Delivery & Handling (ODH) | 0.899 | 0.85 | 0.689 | 0.821 – 0.836 |
| Price Competitiveness (PC) | 0.904 | 0.787 | 0.824 | 0.907 – 0.909 |
| Perceived Use Value (PUV) | 0.918 | 0.821 | 0.848 | 0.918 – 0.924 |
| Customer Loyalty (CY) | 0.906 | 0.793 | 0.829 | 0.909 – 0.911 |
| Responsive Service (RPS) | 0.906 | 0.844 | 0.762 | 0.863 – 0.883 |
| Customer Satisfaction (CS) | 0.93 | 0.887 | 0.816 | 0.899 – 0.906 |

Note: CA refers to Cronbach's Alpha, CR refers to Composite Reliability, AVE refers to Average Variance Extracted.

The Fornell-Larcker approach(Fornell & Larcker, 1981) was applied to assess discriminant validity, where the square root of each construct's AVE was compared with its correlations with the remaining constructs. The results (Appendix 3) showed the AVE square roots consistently exceeded inter-construct correlations, demonstrating distinctiveness among constructs. This finding was further corroborated by the Heterotrait-Monotrait ratio (HTMT) analysis (Henseler et al., 2015), where all obtained values fell under the conservative threshold of 0.85 (Appendix 4), thereby reinforcing the discriminant validity pertaining to the measurement model.

For higher-level constructs, outcomes presented in table 4 indicate that service marketing mix (SMM), digital transformation (DT), and logistics service quality (LSQ) exhibited CA values above 0.82, CR values exceeding 0.88, and AVE values above 0.59, confirming satisfactory internal consistency and convergent validity at the second-order level.

**Table 4:** Cronbach's α, CR, AVE Analysis for 2nd-Order Constructs

| Constructs | CA | CR | AVE |
|---|---|---|---|
| SMM | 0.887 | 0.912 | 0.597 |
| DT | 0.828 | 0.886 | 0.659 |
| LSQ | 0.830 | 0.887 | 0.663 |
| CA | 0.864 | 0.908 | 0.711 |

Overall, high reliability as well as convergent and discriminant validity were established for the measurement model, laying a sound basis for analyzing the structural relationships in the study.

## 4.4. Structural Model Analysis

Following the validation of the measurement model, the structural model underwent analysis to evaluate the hypothesized relationships. A 5,000-resample bootstrapping approach (Hair et al., 2019) was employed to derive the path coefficients, standard errors, and significance levels. The results (Table 5, Figure 2) show that all proposed relationships were statistically significant ($p < 0.001$). Specifically, the Service Marketing Mix (SMM) exerts a notable positive influence on Customer Satisfaction (CS) ($\beta = 0.272$, $p < 0.001$), Digital Transformation (DT) exerts a positive impact on CS ($\beta = 0.329$, $p < 0.001$), and Logistics Service Quality (LSQ) further leads to a significant improvement in CS ($\beta = 0.346$, $p < 0.001$). Furthermore, CS significantly enhances Competitive Advantage (CA) ($\beta = 0.505$, $p < 0.001$).

**Table 5:** Hypothesis Testing of Effects

| Hypothesis | Path | Path Coefficient | T-value | Hypotheses test |
|---|---|---|---|---|
| H1 | SMM -> CS | 0.272*** [0.208, 0.341] | 8.076 | Accepted |
| H2 | DT -> CS | 0.329*** [0.258, 0.397] | 9.348 | Accepted |
| H3 | LSQ -> CS | 0.346*** [0.277, 0.416] | 9.771 | Accepted |
| H4 | CS -> CA | 0.504*** [0.433, 0.571] | 14.347 | Accepted |
| H5 | SMM-> CS -> CA | 0.139*** [0.101, 0.178] | 7.176 | Accepted |
| H6 | DT -> CS -> CA | 0.167*** [0.123, 0.213] | 7.283 | Accepted |
| H7 | LSQ -> CS -> CA | 0.174*** [0.132, 0.220] | 7.600 | Accepted |

Note: * denotes p < 0.05, ** denotes p < 0.01, *** denotes p < 0.001.

With regard to indirect effects, the mediation analysis confirms that CS serves as a significant mediator between the three service-related constructs and CA. The indirect

effects are as follows: SMM → CS → CA (β = 0.139, p < 0.001), DT → CS → CA (β = 0.167, p < 0.001), and LSQ → CS → CA (β = 0.174, p < 0.001). All 95% bias-adjusted confidence intervals exclude zero, confirming the statistical significance and robustness of the mediating effects.

The explanatory power with respect to the model was assessed using the coefficient of determination ($R^2$). With an $R^2$ of 0.580, CS demonstrates considerable variance explained, while CA has an $R^2$ of 0.254, implying weak-to-moderate explanatory strength (Cohen, 2013).

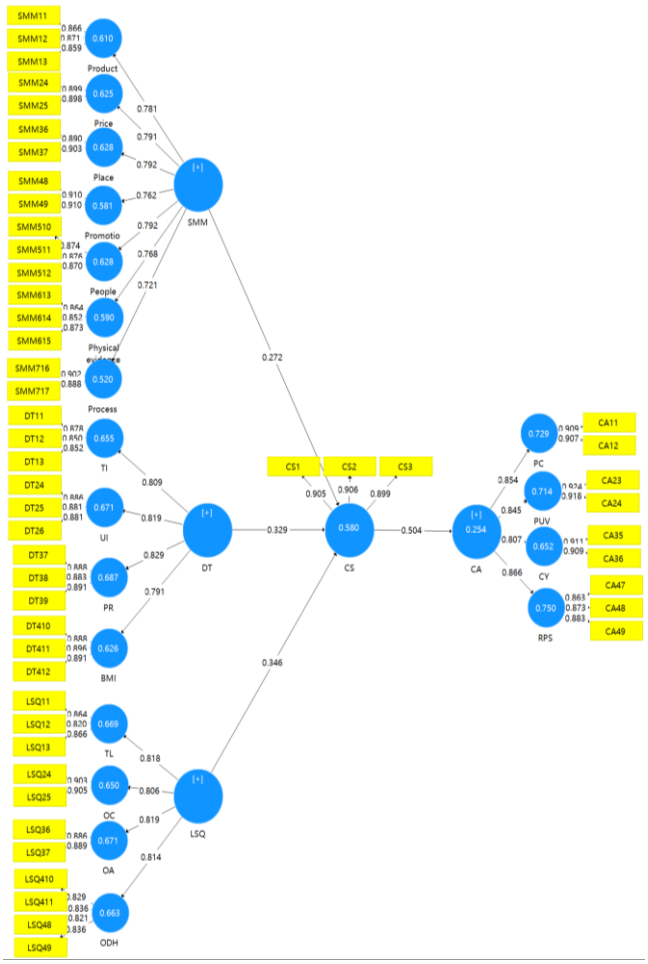


**Figure 2:** Results of structural model analysis

Results of the collinearity analysis showed that VIF values fell between 1.539 and 2.235, remaining beneath the criterion of 3 (Hair et al., 2019), thereby confirming the absence of multicollinearity. Predictive relevance ($Q^2$) was calculated via the blindfolding procedure (omission distance = 7). The $Q^2$ values for CS (0.469) and CA (0.179) exceed zero, suggesting that the model possesses acceptable predictive validity (Hair et al., 2019) (see Table 6).

**Table 6:** Model Explanatory Ability and Prediction Ability Analysis

| Exogenous Variables | Endogenous Variables | $R^2$ | $f^2$ | $Q^2$ |
|---|---|---|---|---|
| SMM | CS | 0.580 | 0.126 | 0.469 |
| DT | | | 0.185 | |
| LSQ | | | 0.194 | |
| CS | CA | 0.254 | 0.341 | 0.179 |

The GoF index reached 0.536, higher than the 0.36 criterion proposed by Becker et al. (2012). In addition, the SRMR was 0.061, which is below the recommended cutoff of 0.08 (Henseler et al., 2015), indicating that the model demonstrates a satisfactory overall fit to the data.

### 4.5. Robustness Check

To assess the robustness of the main PLS-SEM results, aggregate indices were computed by averaging the first-order indicators to represent the second-order constructs (SMM, DT, LSQ, CS, and CA) (Yuan & Deng, 2021). Regression analyses using these second-order scores were then performed, with the results presented in Table 7. Comparison with the PLS-SEM estimates shows that all hypothesized paths remain statistically significant and consistent in direction, confirming the robustness of the positive effects of SMM, DT, and LSQ on CS and CA. Moreover, the model summary in Table 8 indicates that the explained variances ($R^2$) closely match those from PLS-SEM, further supporting the reliability and validity of the proposed relationships.

**Table 7:** Integrated Regression Table

| Predictor → Outcome | SPSS β (Std.) | PLS-SEM β | Direction Consistent | Note |
|---|---|---|---|---|
| SMM → CS | 0.277*** | 0.272*** | Yes | Robust |
| DT → CS | 0.334*** | 0.329*** | Yes | Robust |
| LSQ → CS | 0.335*** | 0.346*** | Yes | Robust |
| CS → CA | 0.502*** | 0.504*** | Yes | Robust |

Note: * denotes p < 0.05, ** denotes p < 0.01, *** denotes p < 0.001.

**Table 8:** Model Summary

| Dependent Variable | SPSS $R^2$ | PLS-SEM $R^2$ | Note |
|---|---|---|---|
| CS | 0.579 | 0.580 | Consistent, robust |
| CA | 0.252 | 0.254 | Consistent, robust |

## 5. Discussion

### 5.1. Key Findings

The PLS-SEM results provide strong empirical support for all hypothesized relationships. SMM, DT, and LSQ each

have a significant positive effect on CS, with CS serving as a key mediating mechanism influencing CA. The observed mediation highlights the central role of customer satisfaction in translating operational and technological capabilities into sustained competitive advantage. These findings were further corroborated through regression analyses, confirming the robustness and consistency of the results.

First, SMM, DT, and LSQ are all positively associated with CS, indicating that an integrated approach involving marketing strategies, digital innovations, and efficient logistics is linked to higher levels of customer satisfaction, reflecting the multi-dimensional nature of value creation in live-streaming environments.

Second, CS is positively related to CA, particularly through aspects such as differentiation and responsiveness rather than cost. This suggests that live-streaming platforms' competitive positioning is primarily associated with unique user experiences and service agility rather than price competition.

Third, the model explains a substantial portion of variance in CS ($R^2$=0.580) but a more modest portion in CA ($R^2$=0.254), reflecting weak-to-moderate explanatory strength for competitive advantage. These results highlight CS as a central mechanism linking operational capabilities to strategic outcomes, while acknowledging that additional factors may also contribute to competitive advantage.

### 5.2. Interpretation of Results and Theoretical Links

First, this study examines the combined effects of the service marketing mix (SMM), digital transformation (DT), and logistics service quality (LSQ), revealing that customer satisfaction primarily arises from coordinated multi-dimensional strategies rather than isolated initiatives. Prior research has typically examined marketing (Othman et al., 2021), digital (Demirel, 2022), or logistics (Zhu & Liu, 2023) factors separately. In contrast, our findings demonstrate that integrating these dimensions generates significant synergistic effects, enhancing customer satisfaction and providing empirical support for the design of holistic service strategies in live-streaming commerce.

Second, our results further show that customer satisfaction serves as a critical conduit linking operational activities to strategic outcomes. Although previous studies have established that satisfaction influences loyalty and repurchase intentions (Al-Adwan et al., 2022; Arslan, 2020; Oliver, 1980), few have examined its mediating role within a multi-factor framework in live-streaming commerce. The findings indicate that differentiation and responsiveness, rather than cost efficiency, are the primary mechanisms through which satisfaction drives competitive advantage, offering a more nuanced understanding of value creation in highly interactive digital markets.

Third, while the model demonstrates strong explanatory power for customer satisfaction, the $R^2$ for competitive advantage is relatively modest (0.254), which, although considered weak but acceptable in social science research, signals potential omitted factors(Ozili, 2023). This limitation may stem from additional determinants such as resource allocation capability(Ferreira et al., 2021), innovation and transformation capabilities (Teece, 2023). For instance, Dynamic Capabilities Theory emphasizes that a firm's ability to integrate, build, and reconfigure resources is fundamental to achieving competitive advantage, yet these factors were not fully captured in the current model (Teece, 2023).

### 5.3 Practical Implications

The findings offer actionable guidance for multiple stakeholders in LSC.

Platform Strategies: Coordinated marketing and digital technologies are essential. Platforms should enhance real-time interactivity, personalize user experiences through data analytics, and integrate AI-driven customer support to improve responsiveness and trust. These measures collectively foster satisfaction and strategic differentiation.

Merchants and Brands: Strategic product curation, exclusive offers, and collaboration with trusted streamers enhance authenticity and brand differentiation. Real-time engagement and efficient after-sales services strengthen loyalty and encourage repeat purchases.

Logistics Providers: Transparent, timely, and integrated logistics processes act as trust signals. Smart routing, real-time tracking, and quality control not only meet operational needs but also reinforce strategic positioning by enhancing customer confidence.

Streamers and MCN Agencies: Professionalism, content quality, and ethical behavior are essential for building emotional bonds and trust. Engaging and responsive interactions amplify the effectiveness of marketing and technological strategies, highlighting the multi-level nature of value creation in LSC.

In sum, CA in LSC is achieved not through isolated operational enhancements but through coordinated orchestration of marketing, digital, and logistics capabilities, demonstrating the critical role of multi-dimensional integration in sustaining user satisfaction and platform competitiveness.

## 6. Limitations and Future Research

This study has two main limitations. First, although data were collected from multiple live-streaming platforms, the sample may be subject to selection bias, and the cross-

sectional survey design with a relatively short data collection period limits the ability to capture temporal variations and draw strong causal inferences. Consequently, the observed relationships should be interpreted as associations rather than definitive causal effects. Future research could expand the dataset to include a broader range of platforms, extend the data collection period, and adopt longitudinal or experimental designs to enhance robustness and provide more rigorous evidence.

Second, the explanatory power for competitive advantage (CA) is relatively modest, suggesting that additional factors, such as innovation capability, market environment, and strategic network resources, may also contribute to CA. Future studies could incorporate these variables to improve the model's explanatory strength.

## 7. Conclusion

This study develops and empirically validates a second-order model integrating the service marketing mix (7Ps), digital transformation, and logistics service quality to examine their joint impact on customer satisfaction and competitive advantage in live-streaming e-commerce. The findings demonstrate that coordinated, multi-dimensional strategies significantly enhance customer experiences and foster sustained competitiveness, highlighting the critical role of strategic alignment across marketing, technology, and logistics. Compared with prior studies examining these factors separately, this integrative framework provides novel insights into the mechanisms driving value creation and platform differentiation.

From a practical perspective, the results underscore the importance of adopting a user-centric approach, leveraging platform capabilities to enhance engagement, trust, and repurchase behavior, while ensuring operational efficiency. Overall, this research advances theoretical understanding of multi-dimensional platform capabilities and offers actionable guidance for stakeholders, establishing a structured foundation for future exploration and the sustainable development of live-streaming commerce.

## Acknowledgements

The authors thank Dr. Khunanan Sukpasjaroen (Rajamangala University of Technology Tawan-ok) for his valuable comments on an earlier version of this manuscript and Ms. Fengfang Ye for her assistance with data collection. We are grateful to the live commerce shoppers who participated in the survey.

## Declarations

**Ethics Approval and Consent to Participate**

This research involved the use of existing data and was determined to be exempt from review by the Institutional Review Board of Rajamangala University of Technology Tawan-ok, in accordance with the Ethical Guidelines for Research on Human Subjects in Thailand, B.E. 2550.

**Competing Interests / Conflicts of Interest**

The authors declare that they have no competing interests.

**Funding**

No funding was received to assist with the preparation of this manuscript.

**Author Contributions**

[Author 1 W.Q.] conceived and designed the study, conducted the data collection and data analysis, drafted the original manuscript, and secured the research funding. [Corresponding Author C.S.] supervised the project and critically revised the manuscript for important intellectual content. All authors read and approved the final manuscript.

**Data Availability Statement**

The data that support the findings of this study are available from the corresponding author upon reasonable request.

**Declaration of Generative AI and AI-assisted Technologies in the Writing Process**

During the preparation of this work, the authors used ChatGPT-4 (OpenAI) to improve the language expression and readability of the manuscript. All AI-generated content was thoroughly reviewed, revised, and verified by the authors. The authors take full responsibility for the final content of the publication.

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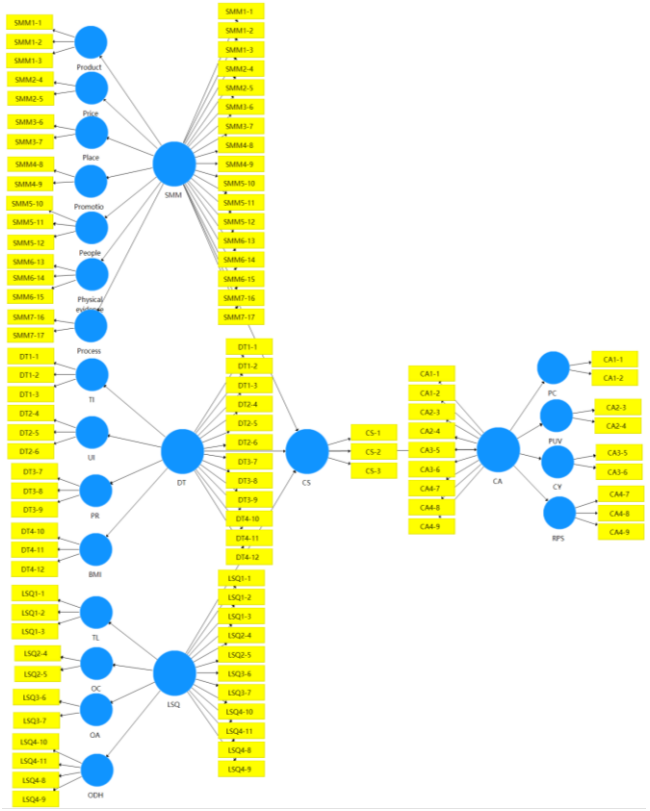
# Appendixes

**Appendix 1:** Designing a Higher-Order Model in PLS Using Repeated Indicators



**Appendix 2:** Measurement Scales

| Observed Variable | Scale Items |
|---|---|
| **1) Competitive Advantage (CA)** | |
| **Price/Cost** Adapted from López-Gamero et al. (2009) | |
| CA1-1 | Competitive pricing encourages LSC audiences to make purchases. |
| CA1-2 | LSC product prices often match or surpass competitor advantages. |
| **Differentiation/Perceived Unique Value** Adapted from López-Gamero et al. (2009) | |
| CA2-3 | Product presentation in LSC demonstrates greater innovation than other platforms. |
| CA2-4 | Interactive experiences in LSC strengthen shopping's social appeal. |
| **Customer Loyalty** Adapted from Sigalas et al. (2013) | |
| CA3-5 | Future purchases on this LSC platform remain preferable. |
| CA3-6 | Recommendations of this LSC platform's products, brands extend to friends or family. |
| **Responsiveness** Adapted from Distanont (2020) | |
| MR1 | Rapid responses address consumer needs, inquiries on the platform. |
| MR2 | Promotional adjustments occur swiftly to adapt to market changes. |
| MR3 | Faster product launches distinguish this platform from others. |
| **2) Customer Satisfaction** Adapted from Giese and Cote (2000) | |
| CS1 | Shopping quality on LSC platforms remains high. |
| CS2 | Shopping on LSC platforms brings happiness. |
| CS3 | Transactions on this site generally lead to satisfaction. |

| Observed Variable | Scale Items |
|---|---|
| **3) Service Marketing Mix (SMM)** Adapted from Pogorelova et al. (2016) | |
| **Product** | |
| SMM1-1 | LSC recommended products exhibit rich variety. |
| SMM1-2 | LSC presentation ensures product information remains clear, detailed. |
| SMM1-3 | Products in LSC meet requirements for functionality, quality, after-sales service. |
| **Price** | |
| SMM2-4 | LSC prices products fairly, maintaining attractiveness. |
| SMM2-5 | LSC pricing aligns with preset budget expectations for merchandise. |
| **Place** | |
| SMM3-6 | LSC platform enables convenient access, effortless usage. |
| SMM3-7 | LSC platform ensures stable, swift service experience. |
| **Promotion** | |
| SMM4-8 | LSC promotions provide clear information. |
| SMM4-9 | LSC promotions stimulate purchase interest. |
| **People** | |
| SMM5-10 | Streamer during LSC demonstrates professional expertise, precise product communication. |
| SMM5-11 | Interaction between streamer, audience remains natural, engaging, resolving inquiries promptly. |
| SMM5-12 | Streamer utilizes expressive language, emotional appeal, shaping immersive live streaming. |
| **Physical evidence** | |
| SMM6-13 | LSC platform interface remains clear, intuitive. |
| SMM6-14 | LSC set design, visual presentation radiate professionalism, captivate attention. |
| SMM6-15 | Physical evidence in LSC (e.g., product displays, physical samples) reinforces trust. |
| **Process** | |
| SMM7-16 | LSC process flows smoothly, transitions seamlessly. |
| SMM6-17 | LSC shopping, payment procedures ensure simplicity, efficiency. |
| **4) Digital Transformation** | |
| **Technology Integration** Adapted from Zhou and Lou (2024) | |
| DT1-1 | LSC platform enables rapid access to desired products, information. |
| DT1-2 | LSC shopping process enhances efficiency, significantly reducing shopping time. |
| DT1-3 | Order placement on LSC platform remains simple, intuitive. |
| **User Interactivity** Adapted from Joo and Yang (2023) | |
| DT2-4 | Active participation in LSC interaction remains achievable. |
| DT2-5 | Real-time interaction with streamer during LSC strengthens engagement. |
| DT2-6 | Increased likelihood of purchase follows direct interaction with streamer in LSC. |
| **Personalized Recommendation** Adapted from Wang et al. (2023) | |
| DT3-7 | Recommended content aligns with shopping interests, needs. |
| DT3-8 | Recommendations reveal valuable products previously unnoticed. |
| DT3-9 | Personalized product recommendations in LSC increase purchase likelihood. |
| **Business Model Innovation** Adapted from Long et al. (2024) | |
| DT4-10 | Business model adopted by LSC platform enhances shopping experience. |
| DT4-11 | Integration of LSC with social media platforms streamlines shopping. |
| DT4-12 | Innovative business models in LSC, including celebrity streamers, influence purchase decisions. |
| **5) Logistics Service Quality** Adapted from Akıl and Ungan (2022); Mentzer and Williams (2001) | |
| LSQ1-1 | Delivery occurs on the date specified during the order stage. |
| LSQ1-2 | Minimal time elapses between order placement and receipt. |
| LSQ1-3 | Consistent time frame exists between order placement and receipt. |
| **Order Condition** | |
| LSQ2-4 | Proper protection ensures product safety during transportation. |
| LSQ2-5 | Ordered product arrives in perfect condition upon delivery. |
| **Order Accuracy** | |
| LSQ3-6 | Received product matches the order with minimal errors. |
| LSQ3-7 | Satisfactory alternatives appear when ordered products become unavailable. |
| **Order Discrepancy Handling** | |
| LSQ4-8 | Reporting non-compliance with order-stage specifications remains effortless. |
| LSQ4-9 | Simple procedures handle cases of non-compliance with order-stage specifications. |
| LSQ4-10 | Effective solutions address non-compliance with order-stage specifications. |
| LSQ4-11 | Convenient options support product replacement when expectations remain unmet. |

**Appendix 3:** Intercorrelations of the Latent Variables for First-Order Constructs

| | BMI | CS | CY | OA | OC | ODH | PC | PR | PUV | PP | PP | Place | Price | PRC | PRD | PRM | RPS | TI | TL | UI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **BMI** | **0.892** | | | | | | | | | | | | | | | | | | | |
| **CS** | 0.512 | **0.903** | | | | | | | | | | | | | | | | | | |
| **CY** | 0.410 | 0.418 | **0.910** | | | | | | | | | | | | | | | | | |
| **OA** | 0.327 | 0.505 | 0.324 | **0.887** | | | | | | | | | | | | | | | | |
| **OC** | 0.383 | 0.520 | 0.392 | 0.578 | **0.904** | | | | | | | | | | | | | | | |
| **ODH** | 0.329 | 0.501 | 0.317 | 0.533 | 0.534 | **0.830** | | | | | | | | | | | | | | |
| **PC** | 0.387 | 0.406 | 0.595 | 0.343 | 0.359 | 0.322 | **0.908** | | | | | | | | | | | | | |
| **PR** | 0.531 | 0.539 | 0.534 | 0.315 | 0.344 | 0.318 | 0.461 | **0.887** | | | | | | | | | | | | |
| **PUV** | 0.382 | 0.459 | 0.563 | 0.375 | 0.402 | 0.336 | 0.618 | 0.458 | **0.921** | | | | | | | | | | | |
| **PP** | 0.243 | 0.466 | 0.322 | 0.352 | 0.341 | 0.345 | 0.374 | 0.311 | 0.290 | **0.873** | | | | | | | | | | |
| **PE** | 0.298 | 0.501 | 0.330 | 0.266 | 0.253 | 0.278 | 0.361 | 0.342 | 0.266 | 0.530 | **0.863** | | | | | | | | | |
| **Place** | 0.276 | 0.470 | 0.325 | 0.320 | 0.292 | 0.324 | 0.357 | 0.332 | 0.288 | 0.610 | 0.556 | **0.897** | | | | | | | | |
| **Price** | 0.277 | 0.468 | 0.340 | 0.282 | 0.236 | 0.245 | 0.401 | 0.296 | 0.273 | 0.565 | 0.533 | 0.538 | **0.898** | | | | | | | |
| **PRC** | 0.181 | 0.388 | 0.203 | 0.232 | 0.197 | 0.248 | 0.297 | 0.230 | 0.194 | 0.500 | 0.450 | 0.464 | 0.576 | **0.895** | | | | | | |
| **PRD** | 0.274 | 0.479 | 0.348 | 0.252 | 0.304 | 0.334 | 0.378 | 0.373 | 0.363 | 0.537 | 0.548 | 0.557 | 0.537 | 0.495 | **0.865** | | | | | |
| **PRM** | 0.289 | 0.380 | 0.246 | 0.235 | 0.312 | 0.290 | 0.320 | 0.292 | 0.268 | 0.529 | 0.534 | 0.545 | 0.522 | 0.454 | 0.545 | **0.910** | | | | |
| **RPS** | 0.377 | 0.418 | 0.584 | 0.430 | 0.440 | 0.397 | 0.664 | 0.450 | 0.665 | 0.343 | 0.293 | 0.260 | 0.326 | 0.211 | 0.303 | 0.256 | **0.873** | | | |
| **TI** | 0.504 | 0.498 | 0.495 | 0.348 | 0.352 | 0.341 | 0.394 | 0.579 | 0.417 | 0.272 | 0.309 | 0.300 | 0.286 | 0.220 | 0.298 | 0.308 | 0.426 | **0.860** | | |
| **TL** | 0.266 | 0.537 | 0.379 | 0.557 | 0.519 | 0.586 | 0.373 | 0.292 | 0.369 | 0.427 | 0.367 | 0.402 | 0.342 | 0.263 | 0.378 | 0.301 | 0.406 | 0.324 | **0.850** | |
| **UI** | 0.546 | 0.447 | 0.357 | 0.259 | 0.289 | 0.303 | 0.335 | 0.570 | 0.345 | 0.220 | 0.270 | 0.268 | 0.265 | 0.228 | 0.257 | 0.219 | 0.328 | 0.546 | 0.259 | **0.883** |

Note: 1. The boldface values on the diagonal represent the square root of the AVE, while the lower triangle shows the Pearson correlations.
2. In this table, PE stands for Physical Evidence, PP for People, PRC for Process, PRD for Product, and PRM for Promotion.

**Appendix 4:** Heterotrait-MonotraitRatio (HTMT) Analysis

| | BMI | CS | CY | OA | OC | ODH | PC | PR | PUV | PP | PE | Place | Price | PRC | PRD | PRM | RPS | TI | TL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **CS** | 0.582 | | | | | | | | | | | | | | | | | | |
| **CY** | 0.493 | 0.498 | | | | | | | | | | | | | | | | | |
| **OA** | 0.41 | 0.627 | 0.426 | | | | | | | | | | | | | | | | |
| **OC** | 0.465 | 0.626 | 0.499 | 0.767 | | | | | | | | | | | | | | | |
| **ODH** | 0.382 | 0.577 | 0.385 | 0.676 | 0.657 | | | | | | | | | | | | | | |
| **PC** | 0.468 | 0.486 | 0.753 | 0.452 | 0.46 | 0.394 | | | | | | | | | | | | | |
| **PR** | 0.611 | 0.614 | 0.644 | 0.396 | 0.42 | 0.371 | 0.559 | | | | | | | | | | | | |
| **PUV** | 0.451 | 0.538 | 0.698 | 0.483 | 0.504 | 0.403 | 0.768 | 0.544 | | | | | | | | | | | |
| **PP** | 0.284 | 0.537 | 0.393 | 0.448 | 0.421 | 0.407 | 0.459 | 0.364 | 0.348 | | | | | | | | | | |
| **PE** | 0.35 | 0.584 | 0.406 | 0.342 | 0.314 | 0.332 | 0.448 | 0.402 | 0.322 | 0.634 | | | | | | | | | |
| **Place** | 0.341 | 0.574 | 0.421 | 0.431 | 0.381 | 0.404 | 0.462 | 0.411 | 0.364 | 0.763 | 0.7 | | | | | | | | |
| **Price** | 0.34 | 0.569 | 0.438 | 0.378 | 0.307 | 0.305 | 0.518 | 0.365 | 0.346 | 0.705 | 0.671 | 0.709 | | | | | | | |
| **PRC** | 0.224 | 0.474 | 0.264 | 0.315 | 0.256 | 0.312 | 0.384 | 0.285 | 0.245 | 0.627 | 0.567 | 0.614 | 0.76 | | | | | | |
| **PRD** | 0.322 | 0.557 | 0.429 | 0.322 | 0.379 | 0.399 | 0.467 | 0.439 | 0.438 | 0.641 | 0.659 | 0.7 | 0.675 | 0.625 | | | | | |
| **PRM** | 0.348 | 0.453 | 0.31 | 0.309 | 0.398 | 0.354 | 0.405 | 0.351 | 0.332 | 0.646 | 0.659 | 0.704 | 0.672 | 0.587 | 0.671 | | | | |
| **RPS** | 0.44 | 0.483 | 0.713 | 0.548 | 0.544 | 0.47 | 0.814 | 0.526 | 0.798 | 0.406 | 0.35 | 0.324 | 0.407 | 0.264 | 0.36 | 0.313 | | | |
| **TI** | 0.594 | 0.582 | 0.611 | 0.449 | 0.441 | 0.407 | 0.489 | 0.685 | 0.507 | 0.325 | 0.374 | 0.382 | 0.36 | 0.281 | 0.36 | 0.381 | 0.511 | | |
| **TL** | 0.316 | 0.635 | 0.473 | 0.725 | 0.655 | 0.707 | 0.468 | 0.349 | 0.454 | 0.517 | 0.448 | 0.514 | 0.436 | 0.338 | 0.461 | 0.377 | 0.491 | 0.397 | |
| **UI** | 0.631 | 0.513 | 0.433 | 0.327 | 0.354 | 0.356 | 0.408 | 0.661 | 0.411 | 0.258 | 0.319 | 0.335 | 0.328 | 0.286 | 0.305 | 0.266 | 0.386 | 0.649 | 0.311 |

Note: In this table, PE stands for Physical Evidence, PP for People, PRC for Process, PRD for Product, and PRM for Promotion.