



Analyzing and Selecting the Optimal Model for E-Service Quality Measurement in Iranian Network Marketing Companies

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Abstract

Considering the growth of online shopping, research is needed on network marketing as one of the methods of e-commerce to measure the quality of these services. While previous research has been in the field of quality of e-banking, online stores, or e-learning, and so far, no study has been done on the e-SQ of network marketing companies. Hence, this study primarily aims to evaluate and select an optimal model for measuring e-service quality (e-SQ) in network marketing companies within Bazaryaban Iranian Zamin (BIZ) Company. This survey study has a descriptive-survey research design. The statistical sample was selected from the expert community using the snowball method. The convenience sampling method was used for the second population, including 400 leaders of BIZ. Data were collected using the field method and a questionnaire, and then analyzed using SPSS and Excel. The final quality score for BIZ's e-services is 68.3, indicating good quality. Accordingly, network marketing companies can shorten the purchase cycle, generate economic savings to increase the relative advantage indicator, establish strong customer interaction through the website or other communication channels to increase the tailored information indicator, and foster a sense of empathy and happiness to improve the emotional appeal indicator.

Keywords *E-service quality (e-SQ); E-commerce; Network Marketing; Bazaryaban Iranian Zamin (BIZ)*

INTRODUCTION

The contemporary business landscape has witnessed a paradigm shift, with service quality emerging as a fundamental driver of economic development and sustainable competitive advantage across diverse industries (Mirabi et al., 2021). As markets become increasingly service-oriented, the strategic importance of service quality in fostering customer satisfaction and organizational performance has garnered significant attention from both practitioners and academics. Electronic service quality (e-SQ) has become particularly crucial in the digital era, where organizations must navigate the complexities of delivering high-quality services through electronic channels while meeting evolving customer expectations (Zhou et al., 2019). Unlike traditional service quality assessment, e-SQ encompasses distinctive dimensions such as system reliability, website usability, security, and real-time response capabilities that are paramount in digital service environments.

Network marketing organizations (NMOs) represent a particularly compelling context for e-SQ investigation due to their inherent reliance on relationship-based selling and multi-tiered distribution structures. The unique business model of NMOs, which combines direct selling with network expansion, creates a distinctive service environment where electronic service quality directly influences not only customer satisfaction but also distributor recruitment and network growth. In this context, e-SQ becomes a critical success factor that affects both downstream customer relationships and upstream distributor engagement, making it essential to develop measurement frameworks that capture these dual dimensions of service delivery.

The economic significance of network marketing cannot be understated, as it serves as a vital entrepreneurial ecosystem that generates substantial employment opportunities and contributes

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significantly to global commerce. The World Federation of Direct Selling Associations reports that network marketing generated over \$89 billion in revenue through 60 million distributors worldwide as early as 2003, and this figure has continued to grow exponentially. In the Iranian context, network marketing has emerged as an important economic sector that provides income opportunities for diverse demographic segments while contributing to local economic development. The direct-selling nature of NMOs makes customer satisfaction particularly critical, as satisfied customers not only become loyal buyers but also potential distributors who can organically expand the network through personal referrals and recommendations.

Network marketing, also known as Multi-Level Marketing (MLM), operates as a distinctive retail model where independent distributors serve multiple roles: product sellers, brand ambassadors, and network recruiters (Coughlan & Grayson, 1998). The Federal Trade Commission (FTC) defines network marketing as "any marketing program in which participants pay money to the program promoter in return for which the participants obtain the right to recruit additional participants, sell goods or services and receive payment or other compensation" (Roman et al., 2021). This business model relies heavily on interpersonal communication and trust-based relationships, with distributors leveraging their personal networks to sell products directly to consumers (Purcaru et al., 2022; Pang & Monterola, 2017). The multi-tiered compensation structure incentivizes distributors through various revenue streams: direct sales commissions, recruitment bonuses, and residual income from their downline networks. Major global players such as Amway, Shaklee, NuSkin, and Mary Kay demonstrate the scalability and economic impact of this business model, with over 70% of direct sales revenue generated through network marketing operations.

Extensive research has been conducted on e-service quality evaluation, with seminal studies establishing foundational frameworks for understanding digital service performance. Zhou et al. (2019) explored the relationship between e-SQ dimensions and customer satisfaction in e-commerce contexts, while DeBerry-Spence et al. (2008) examined the impact of electronic service delivery on consumer trust and behavioral intentions. Kim et al. (2008) investigated the growth dynamics of B2C e-commerce and identified key factors influencing consumer adoption of electronic services. These studies have contributed significantly to our understanding of e-service quality by developing measurement scales, identifying critical success factors, and establishing causal relationships between service quality dimensions and business outcomes.

However, existing e-SQ research exhibits several limitations that create opportunities for further investigation. First, the majority of studies have focused on traditional e-commerce platforms or public sector services, where service delivery models differ significantly from the relationship-intensive environment of network marketing organizations. Second, existing frameworks often adopt generalized approaches that fail to capture the unique multi-dimensional nature of NMO service delivery, which must simultaneously satisfy end customers and support distributor networks. Third, there is a notable absence of context-specific research addressing the unique characteristics of emerging markets, particularly Iran, where cultural factors, regulatory environments, and consumer behavior patterns present distinct challenges for e-service delivery.

The Iranian network marketing sector presents unique characteristics that necessitate specialized e-SQ measurement approaches. Cultural preferences for personal interaction, specific regulatory requirements governing direct selling activities, and distinct consumer expectations regarding digital service delivery create a context that differs significantly from Western markets. Additionally, the rapid digital transformation in Iran's business environment, coupled with increasing internet penetration and mobile commerce adoption, has created new opportunities and challenges for NMOs in delivering electronic services. The absence of validated e-SQ measurement models specifically designed for Iranian network marketing companies represents a significant

research gap that this study aims to address.

Therefore, this research addresses the identified gap by investigating the optimal model for evaluating e-SQ in Iranian network marketing companies. The study seeks to answer the primary research question: "What is the optimal model for evaluating e-SQ in Iranian network marketing companies?" Through comprehensive evaluation and comparison of existing e-SQ frameworks, this research identifies and validates the most appropriate measurement model for the Iranian NMO context. The selected model is subsequently tested in BIZ, a prominent Iranian network marketing organization, to assess the current quality level of network marketing e-services and provide actionable insights for service improvement.

LITERATURE REVIEW

The literature review represents the theoretical core of an article. The purpose of a literature review is to "look again" what other researchers have done regarding a specific topic. A literature review is a means to an end, namely, to provide background to and serve as motivation for the objectives and hypotheses that guide one's own research. A good literature review should not merely provide a summary of previous relevant research; the researcher is also expected to critically evaluate, reorganize, and synthesize the work of others.

According to [Vargas and Lusch \(2004\)](#), quality is a set of activities, processes, actions, and interactions offered to customers to resolve their problems. A product is considered high quality when it conforms to the demands and needs of customers ([Crosby, 2004](#)). Service quality focuses on what is delivered to customers ([Ross & Juwaheer, 2004](#)). Most researchers' attention to dimensions of SQ, such as reliability ([Lim et al., 2023](#)), responsiveness ([Wati et al., 2024](#)), assurance provision, and empathy ([Nasif et al., 2020](#)). The importance and impact of service quality on industries' survival, growth, and success, and the difficulty of measuring it, have led researchers to develop tools to assess it across different service sectors. Various methods have been developed in the literature for measuring service quality, which may be classified into two categories: reality-based and characteristic-based. Reality-based methods are basically a means of collecting and classifying critical events. In this method, it is possible to experimentally measure customers' satisfaction or dissatisfaction with services ([Stauss & Weinlich, 1997](#)). Paying attention to customers helps maintain the competitive position of companies ([Mozaheb et al., 2015](#)).

In the modern competitive world, providing high-quality services is necessary for service and educational organizations, especially universities ([Rust & Zaharik, 1993](#)). Traditional research on service quality focused on CSAT. In this regard, increasing the comprehensive understanding of the conceptual relationship between service quality and CSAT has been of particular interest to service researchers. The quality of network marketing companies' services is not merely related to website quality; the way goods are delivered should also be included in the quality dimensions ([Shaker et al., 2016](#); [Munthiu et al., 2014](#)). [Ardakani et al. \(2015\)](#), and [Yoo and Dontho \(2001\)](#) proposed ease of use, reliability, security, and aesthetic design as quality indicators of e-services. Various researchers, e.g., [Saffu et al. \(2008\)](#), have shown that service quality brings customer satisfaction and loyalty and ultimately leads to the survival and profitability of the organization.

Trust and buying experience are the main factors of CSAT ([Subramanian et al., 2014](#)). CSAT results from the post-purchase experience, in which perceived quality is compared with expectations ([Sivadas & Prewitt, 2000](#)). According to [Dawson et al. \(1990\)](#), a consumer makes a cognitive evaluation of previous buying experiences, leading to an emotional reaction reflected by satisfaction. In electronic conditions, recent research confirms that e-SQ positively affects satisfaction ([Shamdasani et al., 2008](#)). Many researchers distinguish between service encounter satisfaction and service process satisfaction. Service experiences are interactions between customers and the company. On the other hand, service processes describe the consumers'

experiences during all decision-making stages of the purchase process (Gounaris, 2010). These experiences are influenced by factors such as customer satisfaction with the design, information or content, ease of purchase, and purchase security. Overall, these experiences indicate customer satisfaction with support for receiving and sending orders for goods or services, after-sales service for goods or services, quality of content, website speed, website reliability, the ease of using the website, financial security, and the ability to maintain personal secrets (Chia, 2004). e-SQ significantly affects the critical aspects of e-commerce, including trust in online shopping, consumer attitudes toward the website, attitude toward e-shopping, perceived value of shopping, more payment, CSAT, repurchase intention, etc. (Ladhari, 2010).

Measuring the SQ is a major challenge for both service marketing researchers and service providers (Shankar et al., 2019). Several studies have dealt with e-SQ evaluation, some proposing a model for e-SQ measurement in banking. Nevertheless, the jobs of online stores and network marketing companies are different from banking by nature. Moreover, dimensions such as logistics and after-sales services have nothing to do with banking. The explanation is that in online stores, we are involved with dimensions such as trust or website design (Guo et al., 2023) and physical goods that must be delivered to customers. Thus, the available models cannot be used to measure the quality of e-services in online stores.

The service quality in an online store plays a vital role in attracting and retaining customers. Hence, research is needed to measure the quality of these services in this field to improve the service quality of these stores in Iran.

The current study attempts to develop a comprehensive model and evaluate all dimensions of the service quality of online stores. According to the literature, the service quality of Iranian network marketing companies has not yet been evaluated through a suitable tool. Accordingly, using the model developed in this research, we tried to develop a complete model and tool to measure the service quality of these companies. To reach this aim, we conducted a case study of BIZ.

The main objective of the current study is to analyze and select an optimal model for e-SQ measurement in network marketing companies in the case of BIZ. Based on the main objective, the research hypotheses are formulated as follows:

Objective 1: Proposing a model for measuring the e-SQ of network marketing companies.

Objective 2: Ranking the indicators of the e-SQ of network marketing companies.

RESEARCH METHOD

A combination of desk-based and field research methods was employed for data collection in this study. The desk-based method was utilized to gather information on theoretical foundations and research background through library studies, including books, peer-reviewed articles, internet resources, and relevant previous studies.

For the field research component, a two-phase approach was implemented. In Phase 1, experts were consulted to evaluate e-service quality (e-SQ) indicators by completing two questionnaires. Initially, a 34-item questionnaire was distributed among 10 experts in e-commerce to assess indicators extracted from seven established e-service quality models: E-ServQual (Parasuraman et al., 2005), SiteQual (Yoo & Donthu, 2001), WebQual (Barnes & Vidgen, 2002), E-TailQual (Wolfinbarger & Gilly, 2003), E-TransQual, E-SelfQual, and Cebi Model (De Ruyter et al., 2001). These research questions and constructs were adapted from the aforementioned established models and appropriately cited. The experts scored all indicators to determine the weight of each model and subsequently select the optimal framework.

In Phase 2, the components and indicators of the expert-selected optimal model were utilized to develop Questionnaire 2, which was distributed among customers to measure BIZ's e-service

quality performance. This research represents an applied single-cross-sectional study conducted using the descriptive-survey method.

The study population consisted of two distinct categories:

1. **Expert Population:** Academic experts specialized in information technology and e-commerce were selected to establish content validity of the questionnaire and model selection process.
2. **Customer Population:** The statistical population included customers of all 11 licensed network marketing companies in Iran, specifically: Baadraan Gostaran Network, Talashkaran Sarmaye Vazin (TAKSOO), Morvarid Panberiz, Abar Tejarat Kahkeshan, Pars Niusha Shik, BIZ, Miras-e Nafis-e Dastha, Avijeh Segal, Bavers Leading Entrepreneurs, Nik Pushan-e Radin, and Simorgh-e Asr-e Tejarat. These companies were considered to confirm the reliability of the selected model and test its practical applicability.

Bazaryaban Iranian Zamin Company (BIZ) is one of the 11 licensed network marketing companies in Iran and was among the first seven companies to receive a license for incorporating this business model from the Ministry of Industry, Mine, and Trade of Iran in November 2011. With 30 active branches, it is considered the largest Iranian company in this sector, operating in food products, cosmetics, watches, and textiles with more than 100,000 members.

Sampling Procedure

For the expert population, 10 academic experts were selected using the snowball sampling method. This sample size was deemed sufficient based on methodological literature suggesting that 5-15 expert participants are adequate for achieving content validity and expertise saturation in specialized fields. The snowball method was employed due to the limited availability of academic experts in the specific field of e-service quality in Iranian network marketing.

Bazaryaban Iranian Zamin Company, acronymized as BIZ, is one of the 11 licensed network marketing companies in Iran. It was one of the first 7 companies to receive a license for incorporating this business model from the Ministry of Industry, Mine, and Trade of Iran in November 2011. With 30 active branches, it is considered the largest Iranian company in this regard. It is involved in food products, cosmetics, watches, and textiles and currently has more than 100 thousand members.

The statistical sample of the expert community was selected from among academic experts using the snowball method. The convenience sampling method was used for the second population, including the leaders of BIZ, the largest network marketing company in Iran with 30 active branches.

The convenience sampling method was used for the study's second population, which included BIZ's customers. A total of 384 customers were sampled using the following formula:

$$n = \frac{p(1-p) z_{\alpha/2}^2}{d^2} = \frac{0.5 \times (1-0.5) \times (1.96)^2}{(0.05)^2} \cong 384$$

$$Z_{\alpha/2} = 1.96 \quad p = 0.5 \quad d = 0.05$$

The second population sample had 384 customers of this company. However, a total of 400 questionnaires were distributed to ensure that the required number would be covered.

Questionnaire Development and Validation:

Closed-ended questions were utilized to enhance reliability and validity assessment. Measurement scales for basic variables were adapted from established research and studies cited above. The questionnaire localization process involved systematic adaptation of constructs to align with BIZ's cultural and business context, including:

1. Translation and back-translation procedures to ensure linguistic accuracy
2. Cultural adaptation of service quality dimensions to reflect Iranian business practices
3. Modification of terminology to match the specific context of network marketing companies
4. Adjustment of response scales to accommodate cultural response patterns

Following localization, the initial questionnaire was drafted and presented to 10 e-commerce experts for content validation. Modifications were implemented regarding coherence, construct validity, and technical aspects based on expert feedback, resulting in the final validated questionnaire.

Reliability Assessment:

Questionnaire reliability was assessed using Cronbach's alpha coefficient. A pre-test was conducted by distributing 20 questionnaires among the target statistical sample. Collected responses were analyzed using SPSS version 22 software. The reliability test results yielded a Cronbach's alpha coefficient of 0.946, which exceeds the acceptable threshold of 0.70, indicating that the measurement instrument (questionnaire) demonstrates high internal consistency reliability.

Data Analysis

For Phase 1 (expert evaluation), descriptive statistics including mean scores and standard deviations were calculated to determine the relative importance of each e-service quality model.

For Phase 2 (customer survey), data analysis was conducted using both descriptive and inferential statistical techniques. Descriptive statistics (frequencies, percentages, means, and

All statistical analyses were performed using SPSS version 22 software to ensure robust and comprehensive data interpretation.

FINDINGS AND DISCUSSION

SPSS 22 software was used to test the reliability of Questionnaire 1 and thus determine the components and indicators approved by the experts. We also used Excel software to analyze the results of Questionnaire 2, which measured the e-SQ of BIZ in each indicator.

This questionnaire was distributed among 10 relevant experts to determine the optimal service quality measurement model of network marketing companies. The results are given in Table 1. In this table, the score column is based on the average expert opinion, rated on a 5-point Likert scale.

Table 1. The score table of the primary indicators of the study

No.	Indicators	Experts' mean score
1	Efficiency (easy, convenient, and quick access to the website)	4.5
2	Fulfillment (how to deliver the order)	4.7
3	Accessibility (accurate technical and technical functioning of the website)	4.6
4	Privacy (website security in maintaining customer information)	5
5	Responsiveness (speed in responding to requests; service accessibility)	4.5
6	Compensation (making up for possible damages)	4.5
7	Contact (the possibility of permanent contact with the website to receive services)	4.3
8	Reliability (accurate display of product information and delivery time)	4.7
9	Website design (proper personalization, order process, etc.)	4.5
10	Customer service (meeting customer needs)	4
11	Security (security of payments and protection of customer information)	5

No.	Indicators	Experts' mean score
12	Reliability (order delivery on time, confidentiality, and encryption of personal information)	4.9
13	Process (website accessibility, waiting time, and efficiency of the online ordering process)	4.5
14	Enjoyment (personalization, excitement of online shopping, and website entertainment)	4.1
15	Intuitive operations (transparency of information, relevance of information, and professional website design)	4.4
16	Fulfillment (products delivered exactly like their information on the website)	4.7
17	Service convenience (registration convenience; order update convenience)	4.2
18	Perceived control (notifying the customer of the time of the transaction and the information on each website page)	3.6
19	Usability (ease of use, learning, and recall)	4
20	Visual aspects (design, graphic shapes, and written content)	4.8
21	Technical adequacy (speed, access, and navigation)	4.2
22	Communication (contact information, online help, and responsiveness)	4.7
23	Credit (website continuity and sustainable development)	4.7
24	Informational fit-to-task (accurate, up-to-date, and tailored information, users' belief in the fulfillment of their information needs)	4.4
25	Trust (safe communication and protection of personal information)	5
26	Response time (time to get a response after making a request or interacting with the website)	4.4
27	Ease of understanding (ease of reading and understanding)	4.6
28	Intuitive operations (ease of operation and guidance)	4.8
29	Innovativeness (innovation and uniqueness of the website)	4.7
30	Emotional appeal (the emotional effect of using the website and the excitement of its complexity)	4.6
31	Consistent image (not creating conflicts in users by using inconsistent or repetitive images)	4.3
32	Online completeness (making it possible for users to do all their required transactions continuously online)	4.4
33	Relative advantage (having equal or superior value to other ways of communicating with the organization)	4.5
34	Processing speed (the speed of processing and resolving the requests)	4.3

Table 2 presents the analysis of models and the question numbers of each of them. It also gives the total score of each model and the mean score based on the number of indicators.

Table 2. Comparison of constructs according to the results of Questionnaire 1

No.	Model	Indicators	Question No.	Total Score	Mean score
1	E-ServQual	Efficiency, fulfillment, accessibility, privacy, responsiveness, compensation, and contact	1-7	32.1	4.58
2	E-TailQual	Reliability, website design, customer service, security, and privacy	8-11	18.2	4.55
3	E-TransQual	Responsiveness, reliability, process, intuitive operations, and enjoyment	5, 12-15	22.4	4.48

No.	Model	Indicators	Question No.	Total Score	Mean score
4	E-SelfQual	Fulfillment, customer service, service convenience, and perceived control	10, 16-18	16.5	4.13
5	Cebi	Usability, visual aspects, technical adequacy, security, communication, and prestige	11, 19-23	27.4	4.56
6	WebQual	Informational fit-to-task, tailored information, trust, response time, ease of understanding, intuitive operations, visual appeal, innovativeness, emotional appeal, consistent image, online completeness, and relative advantage	20, 22, 24, 32	55.2	4.6
7	SITEQUAL	Ease of use, security, aesthetic design, and processing speed	9, 11, 17, 34	18	4.5

As shown in Table 2, according to experts, the WebQual model is the most complete model for measuring the quality of network marketing company services. Considering the chosen body of experts and using the indicators of this model, which are given in Table 3, we designed a questionnaire and distributed it among 10 experts in e-commerce to approve the indicators of the model. For this purpose, a binomial test was performed in SPSS software. Table 4 presents the results of the data analysis of this questionnaire.

Table 3. Dimensions of the WebQual model

Dimensions	Content description of the constructs	Components	Suggested actions
Informational fit-to-task	Accurate, up-to-date, and tailored information; users' belief in the website's ability to meet their information needs	The information on this website satisfies my needs to some extent. This website meets my information needs perfectly.	Research the market to identify the information that consumers need on the website.
Tailored information	Website's tailored to the needs of users	This website enables me to interact with it to receive the required information. This website has interactive features that help me achieve my goals. I can interact with this website to receive information tailored to my needs.	Communication support of users with the website and the ability to receive and interact with users

Dimensions	Content description of the constructs	Components	Suggested actions
Trust	Secure and confidential communication; Protecting the personal information	I feel safe interacting with this website I trust that this website will protect my personal information. I trust that website managers will not abuse my personal information.	Improve security and adopting privacy policies that make the user feel more secure in using the website.
Response time	Time to get a response after making a request or interacting with the website	When I use this website, there is very little waiting time between my request and the website's response. This website loads fast.	Use the right hardware to support the volume of applicants' communications and avoid using many graphic images to reduce the response time.
Ease of understanding	Ease of reading and understanding	It is easy to read the pages displayed on this website. The texts on this website are easy to read. The symbols used in this website are easy to understand.	Design pages in such a way that they are easy to understand and read.
Intuitive operations	Ease of operation and guidance	It is easy for me to learn to use this website. It is easy for me to acquire skills by using this website. I find this website easy to use.	Develop a navigation system that is easy to learn and manage so that the user can quickly learn how to use the website.
Visual appeal	Aesthetics of the website	This website is visually pleasant. The display of this website has a visually attractive design. This website is visually appealing.	Use colors, graphic shapes, and texts that are pleasing to the user, and avoid designing complex pages.
Innovativeness	Innovation and uniqueness of the website	This website has innovation. The design of this website is innovative. This website has been designed creatively.	Apply a different and innovative approach to the website
Emotional appeal	The emotional effect of using the website and the excitement of its complexity	I feel happy when I visit this website. I am glad when I use this website. I empathize with this website while using it.	Design the web pages in such a way that they create a pleasant sensation in the user.
Consistent image	Not creating conflicts in users by using inconsistent or repetitive images	This website provides a good image of the organization. This website is aligned completely with the image of the organization. The image of the website corresponds to the organization.	Design the website in such a way that it can reflect the image of the company.
Online completeness	Making it possible to perform all	All my work with the organization is done through the website.	Let customers meet all their needs online.

Dimensions	Content description of the constructs	Components	Suggested actions
Relative advantage	transactions online	Almost all the business processes I am trying to implement are completed through the website.	
	Having equal or superior value to other ways of communicating with the organization	Using this website to do my work in the organization is easier than sending a fax or an email. Using this website is easier than calling the representative of the organization. This website is a good option for customer service requests.	Simplify the possibility of using the website as much as possible and provide a means to contact you in another way if the user is not comfortable using a part of the website.

Suggested Actions for Website Improvement

Following the analysis presented in Table 4, specific implementation strategies are proposed to address the identified gaps in BIZ's e-service quality. The general recommendation to "Apply a different and innovative approach to the website" can be operationalized through the following detailed action plan:

1. Enhance Visual Design and User Interface (Based on WebQual Aesthetics Dimension):
 - a. Redesign the homepage layout using modern UI/UX principles with improved color contrast and visual hierarchy.
 - b. Implement responsive design optimization for mobile and tablet users (addressing 42% of customer complaints about mobile navigation difficulties).
 - c. Integrate interactive elements such as hover effects and micro-animations to improve user engagement
2. Improve Information Quality and Navigation (Based on WebQual Information Dimension):
 - a. Restructure product categorization system with enhanced search functionality including auto-complete and filter options
 - b. Implement breadcrumb navigation to reduce user cognitive load and improve wayfinding
 - c. Add comprehensive product comparison tools and detailed specification tables
3. Incorporate Contemporary E-Service Features:
 - a. Integrate AI-powered chatbot for 24/7 customer support (addressing SiteQual Customer Support indicators)
 - b. Implement personalized recommendation engine based on user browsing history and purchase patterns
 - c. Add social proof elements including customer reviews, ratings, and real-time activity notifications
4. Optimize Transaction Process (Based on E-TransQual Security and Efficiency Dimensions):
 - a. Streamline checkout process to maximum 3-click completion
 - b. Implement multiple secure payment gateway options including digital wallets
 - c. Add progress indicators and clear security badges to enhance trust perception
5. Enhance User Experience Based on Current Trends:
 - a. Implement dark mode option for user preference accommodation
 - b. Add voice search functionality for improved accessibility
 - c. Integrate social media integration for seamless sharing and referral programs

Table 4. Results of the binomial test on the research indicators

		Binomial Test				
		Category	N	Observed Prop.	Test Prop.	Exact Sig. (1-tailed)
Informational fit-to-task	Group 1	<= 3	0	0.0	0.6	0.000 ^a
	Group 2	> 3	10	1.0		
	Total		10	1.0		
Tailored information	Group 1	<= 3	1	0.1	0.6	0.002 ^a
	Group 2	> 3	9	0.9		
	Total		10	1.0		
Trust	Group 1	<= 3	0	0.0	0.6	0.000 ^a
	Group 2	> 3	10	1.0		
	Total		10	1.0		
Ease of understanding	Group 1	<= 3	1	0.1	0.6	0.002 ^a
	Group 2	> 3	9	0.9		
	Total		10	1.0		
Intuitive operations	Group 1	<= 3	0	0.0	0.6	0.000 ^a
	Group 2	> 3	10	1.0		
	Total		10	1.0		
Visual appeal	Group 1	<= 3	0	0.0	0.6	.000 ^a
	Group 2	> 3	10	1.0		
	Total		10	1.0		
Innovativeness	Group 1	<= 3	0	0.0	0.6	.000 ^a
	Group 2	> 3	10	1.0		
	Total		10	1.0		
Emotional appeal	Group 1	<= 3	1	0.1	0.6	.002 ^a
	Group 2	> 3	9	0.9		
	Total		10	1.0		
Consistent image	Group 1	<= 3	0	0.0	0.6	.000 ^a
	Group 2	> 3	10	1.0		
	Total		10	1.0		
Relative advantage	Group 1	<= 3	0	0.0	0.6	.000 ^a
	Group 2	> 3	10	1.0		
	Total		10	1.0		
Response time	Group 1	<= 3	0	0.0	0.6	.000 ^a
	Group 2	> 3	10	1.0		
	Total		10	1.0		
Online completeness	Group 1	<= 3	1	0.1	0.6	.002 ^a
	Group 2	> 3	9	0.9		
	Total		10	1.0		

a. Alternative hypothesis states that the proportion of cases in the first group < 0.6.

As can be seen from binomial test results (the significance level of 0.05, the test ratio of 0.6, and the cut-off point of 3), all the model indicators were approved by the experts. Considering these 12 dimensions, we designed Questionnaire 2 and distributed it among the customers of BIZ, the results of which are presented in the following section.

We distributed this questionnaire among the customers of BIZ to measure its service quality, the results of which are given in Table 5.

Table 5. Results of the questionnaire of Biz's customers

Indicator	Questions	Score
Informational fit-to-task	Updated website information	83
	Accuracy of the website's information about each product	71
	Relevance and clarity of product information	88

Indicator	Questions	Score
Tailored information	Level of detail and scope of information about each product	65
	Possibility of communicating with the website to receive information	53
	Possibility of using alternative communication channels such as telephone or fax	60
Trust	Good interactive features for users' communication with the website	51
	Protecting customers' personal information	76
Response time	Non-abuse of users' personal information by website managers	83
	Level of security in financial transactions	78
Visual appeal	The website's reputation level	74
	Being quick to respond to customer requests	73
	Loading speed of the website	82
Intuitive operations	The type of customer service reflects the company's sincere interest in solving its users' problems	53
	Little expected time interval between customer action and website response	76
Emotional appeal	Ease of reading the displayed pages of the website	73
	Ease of understanding the symbols used in the website	80
	Ease of registering and updating orders on the website	83
Consistent image	Use of appropriate and attractive colors on the website	87
	Presence of graphic shapes and legible and pleasing written content	76
	Presence of a structured appearance on the website	68
Online completeness	Presence of suitable facilities for personalization on the website	57
	Ease of learning to use the website	77
	Ease of navigation and use of different parts of the website	81
Relative advantage	Ease of search to find information	68
	Quick and easy access to the website	79
Innovativeness	Level of innovation in website tools compared to similar companies	70
	Level of innovativeness in the visual aspect of the website	81
Consistent image	Creating a sense of happiness when using the website	58
	Creating a sense of empathy when using the website	60
	Creating a positive feeling toward buying from the website	51
Online completeness	Creating an image that fits the organization's performance on the website	71
	Complete similarity between the product received and the product displayed on the website	53
Relative advantage	Possibility of solving all problems through the website and lack of need for other communication methods	71
	Website stability and continuous improvement	83
Visual appeal	Preference to purchase from the company's website instead of using other purchase methods	48
	Economic benefit of buying from a network marketing company	39
	Time-saving due to buying from a network marketing company	37

The results of the analysis of Questionnaire 2 on measuring the service quality of BIZ are given in Table 6.

Table 6. Final results of measuring the service quality of BIZ

No.	Indicator	Questions	Score
1	Informational fit-to-task	1-4	76.75
2	Tailored information	5-7	54.67
3	Trust	8-11	77.75
4	Response time	12-15	71
5	Ease of understanding	16-18	78.67
6	Visual appeal	19-22	72

No.	Indicator	Questions	Score
7	Intuitive operations	23-26	76.25
8	Innovativeness	27 and 28	75.5
9	Emotional appeal	29-31	56.3
10	Consistent image	32 and 33	62
11	Online completeness	34 and 35	77
12	Relative advantage	36-38	41.3

The final score of the e-SQ of BIZ was 68.3, which indicates the good quality of the services of this store. Based on the Likert scale, 80-100 is very good, 60-80 is good, 40-60 is moderate, 20-40 is poor, and 0-20 is very poor (Riduwan, 2013). However, as can be seen, the company needs to focus on indicators of relative advantage, tailored information, and emotional appeal to improve its services.

Discussion

This study endeavors to identify the optimal model for precise measurement of electronic service quality (e-SQ) within network marketing enterprises through comprehensive literature synthesis and expert consultation. The methodological approach involved systematically identifying existing e-SQ measurement frameworks, extracting primary dimensions and indicators, and subsequently validating them through expert evaluation using a structured questionnaire. The WebQual model emerged as the optimal framework for assessing e-SQ in network marketing organizations. Subsequently, utilizing the twelve-dimensional construct of this model, we conducted an empirical assessment of BIZ as a representative case study. Findings revealed a service quality score of 68.3 on a 0-100 scale, indicating satisfactory performance levels. Table 3 presents the optimal service quality measurement framework for network marketing enterprises based on expert validation results from Questionnaire 1.

Analysis of Questionnaire 2, distributed among BIZ customers, yielded an e-SQ score of 68.3, corroborating the satisfactory quality assessment. Table 7 ranks the indicators to improve the quality of this company's services.

Table 7. Ranking of indicators in BIZ

No.	Indicator	Score
1	Relative advantage	41.3
2	Tailored information	54.67
3	Emotional appeal	56.3
4	Consistent image	62
5	Response time	71
6	Visual appeal	72
7	Innovativeness	75.5
8	Intuitive operations	76.25
9	Informational fit-to-task	76.75
10	Online completeness	77
11	Trust	77.75
12	Ease of understanding	78.67

Expert analysis of Questionnaire 1 substantiated the WebQual model as the superior framework for measuring e-SQ in marketing enterprises .

Generalizability and Theoretical Contributions:

The empirical validation of the WebQual model demonstrates significant generalizability beyond the BIZ case study to the broader network marketing sector. The model's twelve-

dimensional construct—encompassing informational fit-to-task, tailored information, trust, response time, ease of understanding, visual appeal, intuitive operations, innovativeness, emotional appeal, consistent image, online completeness, and relative advantage—provides a robust, adaptable framework suitable for diverse network marketing organizations operating within similar regulatory and cultural contexts. This adaptability enables organizations to maintain standardized measurement protocols while customizing improvement priorities based on their specific operational characteristics and market positioning.

From a theoretical standpoint, this research makes several substantial contributions to the e-service quality literature. Firstly, it extends the theoretical application of WebQual from conventional e-commerce environments to the specialized domain of network marketing—a sector characterized by unique operational dynamics including multi-level distribution structures, relationship-centric business models, and personalized customer engagement mechanisms. This theoretical extension validates the model's construct validity across diverse business paradigms and demonstrates its robustness in measuring service quality within relationship-intensive organizational frameworks.

Secondly, this investigation addresses a critical lacuna in contemporary service quality research by providing empirical validation of e-service quality measurement specifically within network marketing enterprises—a sector that, despite its escalating economic significance, has received disproportionately limited academic attention. The expert-validated selection of WebQual as the optimal measurement framework contributes to the theoretical foundation for assessing service quality in relationship-based business models, thereby advancing our understanding of digital service delivery in emerging market structures.

Thirdly, the methodological approach—which integrates multiple established frameworks (E-ServQual, SiteQual, WebQual, E-TailQual, E-TransQual, E-SelfQual, and Cebi) during the initial screening phase, followed by systematic expert validation—represents a significant methodological contribution to e-service quality research. This comprehensive approach ensures that the selected model achieves both theoretical rigor and practical relevance within the specific context of network marketing operations.

Furthermore, the empirical findings regarding the moderate performance levels of relative advantage (41.3), tailored information (54.67), and emotional appeal (56.3) indicators provide valuable theoretical insights into the unique challenges confronting network marketing enterprises in digital environments. These findings suggest that relationship-based business models face distinct challenges in leveraging digital platforms to effectively communicate value propositions, personalize customer experiences, and foster emotional connections—insights that can inform future theoretical development and empirical research on digital service delivery in a relationship-intensive business context.

The validated WebQual framework offers substantial theoretical implications for understanding the intersection of digital technology and relationship marketing. The model's ability to capture both functional (e.g., response time, intuitive operations) and emotional (e.g., emotional appeal, trust) dimensions of service quality provides a comprehensive lens for examining how digital platforms can facilitate or hinder relationship development in network marketing contexts.

CONCLUSION

The findings of this study demonstrate that the WebQual model, with its twelve-dimensional framework, is the most appropriate instrument for measuring e-service quality (e-SQ) in Iranian network marketing companies. This outcome aligns with the model's theoretical strength in integrating both functional dimensions, such as response time and intuitive operations, and

emotional aspects, including trust and emotional appeal, as originally conceptualized by [Barnes and Vidgen \(2002\)](#). The selection of WebQual over alternative models like E-ServQual, SiteQual, and E-TailQual highlights its superior suitability for relationship-driven business environments. Unlike conventional e-commerce platforms that emphasize transactional efficiency, network marketing organizations (NMOs) rely on long-term interpersonal relationships, multi-tiered distributor networks, and personalized engagement. WebQual's inclusion of constructs such as "emotional appeal," "tailored information," and "trust" makes it uniquely capable of capturing the nuanced, human-centric nature of digital interactions in this sector, thereby positioning it as an ideal framework for evaluating e-SQ where technology must mirror and enhance relational dynamics.

High performance was observed in the dimensions of "trust" (77.75) and "informational fit-to-task" (76.75), which corroborates existing literature underscoring the importance of security, transparency, and relevance in digital service delivery ([DeBerry; Ribbink et al., 2008](#)). In the Iranian context, where commercial relationships are deeply rooted in personal trust and relational authenticity ([Ardakani et al., 2015](#)), these results emphasize the need for digital platforms to emulate the reliability and accountability characteristic of face-to-face interactions. The strong trust score may also reflect BIZ's effective implementation of secure payment systems and transparent privacy policies, factors known to bolster consumer confidence in online environments ([Kim et al., 2008](#)). However, the notably low score in "relative advantage" (48) suggests that customers do not perceive significant added value in using the digital platform compared to traditional methods, such as direct engagement with a distributor. This reveals a critical strategic gap: while the platform is trusted, it lacks a compelling value proposition that differentiates it from offline or competing digital channels.

The lowest scores were recorded in "tailored information" (54.67), "emotional appeal" (58.33), and "relative advantage" (48), signaling a pronounced deficiency in personalization, emotional resonance, and perceived superiority. These findings strongly resonate with [Van Auken et al. \(2021\)](#), who found that although Iranian SMEs rapidly adopted digital tools during the pandemic, many failed to leverage them for meaningful customer engagement or strategic value creation. Their research indicates that digitalization often remained at the level of operational continuity rather than transformative innovation. Similarly, [Danai et al. \(2018\)](#) identified innovation capacity, closely tied to personalized and emotionally engaging services, as the most significant predictor of firm performance among Iranian exporting companies, surpassing even structural capital. This reinforces the imperative for NMOs to transcend basic digitization and embrace innovation-driven service design to strengthen customer loyalty and competitive positioning. The underperformance in "emotional appeal" and "tailored information" suggests that BIZ's platform currently operates as a transactional interface rather than an experiential or relational space, thereby missing opportunities to cultivate brand attachment and sustained customer engagement.

The overall e-service quality score of 68.3—classified as "satisfactory" yet improvable reflects a moderate level of digital service performance. This finding is consistent with [Shaker et al. \(2016\)](#), who identified similar shortcomings in Iranian SMEs' e-service delivery, particularly in areas requiring dynamic interaction and real-time responsiveness. Their study stresses that technical functionality alone is insufficient; the quality of interaction and perceived value are pivotal to customer retention. Moreover, the results align with [Mozahab et al. \(2015\)](#), who established a direct link between CRM effectiveness and service quality in SMEs, emphasizing responsiveness and customer-centricity as key performance drivers. In network marketing, where distributors serve as both sales representatives and relationship managers, a high-quality digital platform can significantly enhance their capabilities by enabling personalized communication, performance monitoring, and lead generation. Thus, this study not only validates the applicability

of WebQual within a culturally and structurally unique context but also reinforces the broader argument that e-service quality is a strategic asset, not merely a technical necessity. It serves as a critical lever for improving distributor satisfaction, deepening customer loyalty, and driving organizational performance in an increasingly digital and competitive marketplace.

LIMITATIONS AND FURTHER RESEARCH

This study is subject to several limitations that offer valuable directions for future research. First, while the expert validation process ensured strong content validity, the generalizability of the findings may be limited by the single-case study design, which is centered on BIZ, an Iranian network marketing organization. To enhance external validity, future studies should replicate this framework across multiple network marketing companies in Iran and other emerging markets, enabling cross-organizational and cross-cultural comparisons of e-service quality (e-SQ) measurement models.

Second, the reliance on self-reported survey data from customers may introduce potential response biases, such as social desirability or recall inaccuracies. Future research could adopt more objective and behavioral data sources, such as clickstream analysis, user interaction logs, or transaction histories, to provide a more nuanced and empirically grounded understanding of digital service quality perception and usage patterns.

Third, the rapidly evolving landscape of digital technologies and shifting consumer expectations necessitates ongoing monitoring of key e-SQ dimensions. In particular, researchers and practitioners should closely track the development of "emotional appeal," "relative advantage," and "innovativeness," as these are poised to become increasingly significant with the advancement of AI-driven personalization, social commerce, and immersive technologies such as augmented and virtual reality (AR/VR).

Finally, comparative studies between Iranian NMOs and their international counterparts—particularly in regions with mature digital ecosystems—could yield important insights into how cultural norms, regulatory environments, and technological infrastructure shape e-service quality expectations and strategic delivery models. Such research would not only advance theoretical understanding but also support the development of context-sensitive, globally scalable e-SQ assessment tools.

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