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An Assessment on Service Quality in the Ethiopian Insurance Industry: A PLS-SEM Analysis

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ABSTRACT

This study presents a rigorous quantitative investigation of the determinants of customer satisfaction in the Ethiopian insurance sector, grounded in the Service Quality (SERVQUAL) model. The research analyzes empirical data using Partial Least Squares Structural Equation Modeling (PLS-SEM) to evaluate information gathered from completed structured questionnaires provided by policyholders and industry professionals. The investigation examines factors grouped into five distinct service quality dimensions, including tangibility, reliability, responsiveness, assurance, and empathy. The findings indicate that tangibility, reliability, responsiveness, and assurance have a statistically significant positive influence on customer satisfaction. However, the results indicate that empathy has an insignificant effect on overall satisfaction among the participants. This study offers significant theoretical value by validating the SERVQUAL framework in the Ethiopian context and highlighting a functional priority paradox in which risk-reduction dimensions outweigh relational dimensions in emerging markets. The findings also provide vital practical guidance for Ethiopian insurance companies and the National Bank of Ethiopia by establishing a strategic imperative to prioritize technical competence, rapid service delivery, and tangible infrastructure. By focusing on these core strengths, institutions can better secure long-term policyholder loyalty and operational success in a market characterized by operational rigidity and bureaucratic challenges. Furthermore, the

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study suggests that addressing these service gaps is essential for the modernization of the domestic financial landscape and the improvement of general trust in insurance products.

Keywords: Service Quality; Customer Satisfaction; SERVQUAL; PLS-SEM; Ethiopia

1. Introduction

The global financial landscape is undergoing a profound transformation, marked by a shift from transaction-based interactions to customer-centric service models. In this dynamic context, integrating service excellence strategies has become essential for developing competitive insurance business models[1–3]. As highlighted by Wang et al.[4] in their extensive study of emerging economies, service quality performance has become the decisive "survival factor" for Non-Banking Financial Institutions (NBFIs). Consequently, to secure long-term policyholder loyalty and remain competitive, financial institutions are increasingly under pressure to enhance operational efficiency and provide superior value[5–7].

Despite these global advancements, the Ethiopian insurance industry faces unique challenges, characterized by the dual task of maintaining financial stability while quickly modernizing service delivery. The solvency requirement has traditionally led to a cautious, often bureaucratic approach to market expansion. As noted by Shikur et al.[8], the sector's primary focus has been on financial factors of profitability such as leverage, liquidity, and company size rather than on soft skills or customer experience quality. This financial-focused emphasis has often hindered innovation in service delivery, restricting interactions to simple transactional functions[9, 10]. This pattern mirrors the "operational rigidity" seen by Shetty et al.[11] in other inflexible financial environments, where bureaucratic structures widen the gap between customer expectations and actual service delivery.

While recent global literature extensively examines digital service quality and trust-based frameworks in InsurTech[12–14], empirical studies in highly regulated African markets still show significant inconsistencies. Specifically, a key unresolved question is how bureaucratic rigidity alters the standard structural relationships within the SERVQUAL framework. For instance, while recent research in digital environments emphasizes tangibility and relational engagement as primary drivers of satisfaction[12, 13], traditional financial sectors in emerging economies often cite risk mitigation and assurance as the critical factors[4, 15]. However, these boundary conditions and structural shifts remain untested in the Ethiopian insurance context. Furthermore, a substantial contextual gap exists regarding the universal applicability of the SERVQUAL framework; current literature is divided on whether relational dimensions like empathy remain effective in markets characterized by high operational rigidity. Therefore, rather than proposing a wholly new paradigm, this study offers an incremental yet critical theoretical validation. It investigates the 'Functional Priority Paradox' to confirm whether findings from other developing markets, such as India and Myanmar[11, 16], where risk reduction and functional priorities statistically supersede relational engagement, hold true under Ethiopia's specific structural constraints. By doing so, it analytically substantiates the limitations of universally applying relational service dimensions in inflexible financial environments.

To systematically address these complexities, this study uses the SERVQUAL theoretical foundation and Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the determinants of customer satisfaction. By integrating the unique environmental constraints of the Ethiopian market with the organizational imperatives of service quality, this research aims to address the identified contextual gap. Consequently, this study seeks to answer the following two research questions:

RQ1: To what extent do the Tangible (physical and digital infrastructure) and Functional (reliability and responsiveness) dimensions of service quality drive customer satisfaction in the Ethiopian insurance industry?

RQ2: How do the relational contexts, defined by assurance and empathy, influence satisfaction levels and subsequent loyalty among policyholders in a market driven by operational rigidity?

The remainder of this paper is organized as follows: Section two presents a comprehensive review of the relevant

theoretical and empirical literature. Section three outlines the research methodology. Section four presents the data analysis and the discussion of the results. Finally, Section five provides the conclusion, policy recommendations, and avenues for future research.

2. Literature Review

2.1. Service Quality in the Insurance Industry

Service Quality involves the strategic integration of tangible and intangible delivery mechanisms to fundamentally transform an insurance organization's operations and enhance its value proposition for policyholders[1, 3]. This comprehensive process goes beyond simple transaction processing, reshaping customer engagement strategies to cultivate loyalty and secure a competitive advantage[17, 18].

The accelerating evolution of the financial sector in emerging economies underscores the imperative for organizations to develop robust service competencies. As emphasized by Wang et al.[4], for Non-Banking Financial Institutions (NBFIs) in developing markets, the primary determinant of survival and customer retention is service quality performance. This mirrors the Ethiopian context, where the sector must pivot from a purely financial focus to a service-oriented approach to ensure enduring viability[6, 8].

2.2. Theoretical Framework and Integration

The study is based on the SERVQUAL Model, which remains the leading framework for evaluating customer perceptions in the service industry. However, to enhance theoretical integration, this study grounds the framework in Expectancy Disconfirmation Theory (EDT). EDT suggests that satisfaction is a psychological state resulting from the comparison between prior expectations and actual service performance. In the Ethiopian insurance context, the five SERVQUAL dimensions serve as the "performance" variables that either confirm or disconfirm a policyholder's expectations.

This is complemented by the Resource-Based View (RBV) of the firm. RBV proposes that an organization's internal capabilities, especially its physical/digital infrastructure (Tangibles) and the specialized technical knowledge of its staff (assurance), are strategic resources driving superior value. Linking SERVQUAL with RBV justifies the proposed relationships by indicating that in a market characterized by "operational rigidity," the firm's ability to deliver reliable service acts as a crucial resource that counters negative customer expectations, fostering loyalty.

Additionally, the framework incorporates Relationship Marketing Theory, which states that sustainable competitive advantage stems from successful relational exchanges built on trust and mutual satisfaction. This perspective is particularly relevant because institutional credibility is essential for financial participation in Ethiopia. Recent research from 2023–2025 also shows that combining SERVQUAL with behavioral intention models using PLS-SEM offers a stronger predictive understanding of financial service adoption.

2.3. Determinants of Service Quality (SERVQUAL Dimensions)

The SERVQUAL model comprehensively examines the determinants of service quality and customer satisfaction. This framework holds that the synergy of five distinct dimensions (tangibility, reliability, responsiveness, assurance, and empathy is essential to securing competitive advantage and driving customer loyalty in the financial sector.

2.3.1. Defining Tangibility in Financial Contexts

In the modern financial landscape, tangibility has evolved beyond physical infrastructure to encompass the digital environment. Researchers argue that in contemporary finance, tangibility extends to the digital interface (e-SERVQUAL), where the visual appeal and navigability of digital platforms serve as critical cues for reducing perceived risk[5]. For financial institutions, particularly in emerging markets, high-quality tangible evidence, whether a professional branch or a seamless app, signals stability and legitimacy to customers. This is supported by Ogbeide et al.[17], who found that in the Nigerian insurance market, physical facilities and equipment are primary indicators of a firm's competence. Furthermore, Bharti et al.[5] emphasize that "search convenience" and interface quality are now critical tangible assets that determine a customer's perceived value of the service. Kyaw[16] also notes that modern-looking equipment and a professional appearance among staff are essential for creating a positive first impression in developing

insurance markets.

2.3.2. Defining Reliability in Financial Contexts

Reliability is the ability to deliver promised services dependably and accurately. Jebraeily et al.[19] identify this dimension as the "foundational bedrock" of trust within financial institutions, emphasizing that before customers seek "delight," they fundamentally require the fulfillment of core promises. In the context of insurance, the phrase means the accurate and consistent settlement of claims. Wang et al.[4] reinforce this by identifying reliability as the critical "hygiene factor" for Non-Banking Financial Institutions (NBFIs); without accurate record-keeping and promise fulfillment, satisfaction is impossible. Byakutaga[6] further argues that reliability is the primary driver of "continuity consumption decisions," meaning customers will stay with a provider only if it consistently delivers on its financial promises.

2.3.3. Defining Responsiveness in Financial Contexts

Responsiveness is defined by staff willingness to help customers and provide prompt service. Researchers caution that operational deficiencies in responsiveness, specifically delayed complaint handling and bureaucratic slowness, pose significant impediments to customer retention[9]. In the competitive landscape of African financial markets, where products are often similar, service speed has become a primary differentiator. Shetty et al.[11] contrast this in the Indian public banking sector, noting that a lack of responsiveness and a "willingness to help" are the main reasons customers defect to private competitors. Jothi[20] also found that in critical service systems, users prioritize promptness above all else, often viewing delays as a sign of incompetence. Skaf et al.[18] add that during volatile economic periods, response speed becomes the primary mediator between technology adoption and customer loyalty.

2.3.4. Defining Assurance in Financial Contexts

Assurance refers to employees' knowledge, competence, and courtesy, as well as their ability to convey trust. Wang et al.[4] found that in emerging NBFI markets, assurance is the strongest driver of customer satisfaction because financial products are intangible and inherently risky[14]. Similarly, the adoption of financial technology necessitates assurance (perceived security and competence) as a non-negotiable prerequisite for behavioral intention. Salmah and Shikur[3] support this, suggesting that staff competence directly addresses and mitigates the customer's fear of financial loss. Karmacharya[15] further emphasizes that in service-heavy industries, assurance is vital for building long-term stakeholder loyalty, as customers must feel "safe" in their transactions before committing capital.

2.3.5. Defining Empathy in Financial Contexts

Empathy involves providing caring, individualized attention to customers. While Karmacharya[15] highlights the pivotal role of empathy in high-contact sectors like higher education, its application in finance is more complex. Shetty et al.[11] note that in highly bureaucratic financial sectors, empathy is often the weakest dimension because rigid operational protocols prioritize standardization over personalized care. Ogbeide et al.[17] echo this challenge by observing that regulatory constraints often hinder insurance staff from providing the flexible, empathetic solutions customers seek. However, Byakutaga[6] argues that in microfinance and community-based lending, empathy remains a critical differentiator, as customers value institutions that understand their specific financial hardships. de Figueiredo Marcos and de Matos Coelho[21] conclude that while functional quality (Reliability) attracts customers, empathy often builds the emotional bond required for long-term advocacy.

A critical review of the recent literature (**Table 1**) reveals distinct structural tensions that vary by market environment. For instance, studies of digital and FinTech platforms emphasize tangibility and responsiveness as primary drivers of satisfaction[5, 12, 14], whereas research on traditional, highly regulated financial sectors points to assurance and risk mitigation as critical survival factors[4, 11, 19]. These empirical contradictions demonstrate that service dimensions do not operate uniformly. Consequently, the hypotheses developed below are designed to test whether the traditional bureaucratic nature of the Ethiopian insurance industry aligns more closely with risk-based (assurance/reliability) or relational (empathy) frameworks.

Table 1. Summary of Key Empirical Studies.

Author(s) (Year)	Country/ Region	Focus	Methodology	Variables Used	Key Findings
Kyaw [16]	Myanmar	Service Quality and Policyholder Satisfaction in General Insurance.	Quantitative (Regression)	Tangibility, Reliability, Responsiveness, Assurance, Empathy, Corporate Image.	Reliability and Corporate Image were identified as the most significant drivers of satisfaction, while Empathy showed weaker significance in this emerging market.
Wang et al. [4]	Emerging Economies	The effects of Service Quality Performance on Customer Satisfaction for Non-Banking Financial Institutions (NBFIs).	Quantitative (SEM)	Tangibility, Reliability, Responsiveness, Assurance, Empathy.	Assurance and Reliability were found to be the critical "survival factors" for NBFIs, as they directly mitigate the perceived risk of financial products.
Sharma et al. [14]	India	Impact of Service Quality on Behavioural Intention to use FinTech Payment Services.	Quantitative (PLS-SEM)	Extended SERVQUAL (Tangibility, Reliability, Responsiveness, Assurance, Empathy) + TAM.	Validated that Assurance (security/competence) is a prerequisite for adoption. The study confirmed that SERVQUAL dimensions significantly predict behavioral intention when analyzed via PLS-SEM.
Shetty et al. [11]	India	Service quality in Public Sector Banks using a modified SERVQUAL model.	Quantitative (CFA)	Tangibility, Reliability, Responsiveness, Assurance, Empathy.	Identified significant service gaps in Responsiveness and Empathy within public sector institutions compared to private competitors, attributed to bureaucratic rigidity.
Jebraeily et al. [19]	Nepal	Impact of Service Quality Dimensions on Customer Satisfaction in Financial Institutions.	Quantitative (SEM/SERVPERF)	Tangibility, Reliability, Responsiveness, Assurance, Empathy.	Established that the "functional" dimensions Reliability (keeping promises) and Responsiveness (promptness) are the strongest predictors of trust and satisfaction.
Bharti et al. [5]	India	Transformative service performance of InsurTech companies.	Quantitative (PLS-SEM)	Service Convenience (Tangibility), Trust (Assurance), Perceived Value.	Found that Tangibility (in the form of digital search convenience) and Assurance (Trust) are the primary drivers of purchase behavior in the digital insurance space.
Balbin-Romero et al. [12]	Peru	E-banking service quality based on the e-SERVQUAL model.	Quantitative (Regression)	e-SERVQUAL dimensions (Efficiency, System Availability, Privacy, Fulfillment).	Highlighted that Tangibility (visual appeal of the interface) and Reliability (system availability) are the most critical factors for user satisfaction in digital banking.

2.4. Empirical Studies and Hypothesis Development

2.4.1. Tangibility and Customer Satisfaction

The SERVQUAL model identifies tangibility, encompassing the physical appearance of facilities, equipment, personnel, and communication materials, as one of the five dimensions critical to service quality [22]. In the context of insurance, where the product itself is intangible, these physical cues are of particular importance in determining customer perceptions and forming first impressions [23].

In developing markets, reliance on these physical indicators remains high. Ogbeide et al. [17] emphasize that modernized equipment and facilities are viewed by customers as primary indicators of a firm's competence and financial stability. This finding is corroborated by Kyaw [16], who notes that in emerging insurance sectors, professional staff appearance and modern office environments create the necessary first impression to bridge the trust gap. Empirical evidence from the Life Insurance Corporation of India further high-

lights that tangible elements, such as the comfort of office spaces, serve as a competitive advantage that sustains high customer satisfaction levels against private competitors [24].

However, the perception of tangible evidence has evolved to encompass the digital realm. Researchers argue that in the modern financial landscape, tangibility extends to the e-SERVQUAL context, where the visual appeal and navigability of digital platforms serve as critical cues to reduce the perceived risk associated with financial products [12]. Bharti et al. [5] reinforce this, identifying "search convenience," a facet of digital tangibility, as a decisive factor in determining perceived value.

This multidimensional impact of tangibility is supported by broader empirical research across Asia. For instance, Syumantra and Aslami [25] found that tangibility significantly contributes to customer satisfaction with service delivery in the Malaysian life insurance sector. Similarly, Royne Stafford et al. [26] confirmed that the tangible dimension has a positive and significant effect on customer satisfaction. Consequently, for Ethiopian insurers, tangibility represents a dual imperative: maintaining professional physical infrastructure to signal stability while deploying robust digital interfaces to ensure convenience.

H1. *There is a significant positive relationship between tangibility and customer satisfaction in Ethiopian insurance companies.*

2.4.2. Reliability and Customer Satisfaction

The SERVQUAL model identifies reliability, defined as the ability to deliver the promised service dependably and accurately, as a pivotal dimension of customer satisfaction in the insurance industry. Unlike other sectors, where "delight" features may drive satisfaction, the financial sector prioritizes fulfilling core promises. Jebraeily et al. [19] underscores that in financial institutions, this dimension serves as the foundational bedrock of trust; customers fundamentally require accurate billing and record-keeping before valuing other service attributes. Wang et al. [4] reinforce this by categorizing reliability as a critical "hygiene factor" for Non-Banking Financial Institutions (NBFIs), noting that without the accurate delivery of services, satisfaction is unattainable regardless of the presence of empathy or tangibility.

Empirical evidence across the insurance sector consistently shows that reliability is the primary determinant of satisfaction. For example, Shikur and Maysyaroh [27] discovered that reliability was the paramount factor affecting perceived service quality in the auto insurance industry. Similarly, researchers have identified reliability as the most important dimension affecting customer loyalty in the life insurance context [18, 28]. Advanced methodological approaches, such as the integration of Fuzzy Analytic Hierarchy Process (AHP) and Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) by Sharma et al. [14], also assign the highest weight to reliability when ranking the performance of life insurance firms. Ultimately, the prominence of this dimension stems from the need to mitigate risk. Karmacharya [15] highlights that in the insurance sector, high reliability eliminates the traditional fear of insurer default, making it the most significant predictor of trust during crises.

H2. *There is a significant positive relationship between reliability and customer satisfaction in Ethiopian insurance companies.*

2.4.3. Responsiveness and Customer Satisfaction

Within the SERVQUAL framework, responsiveness is defined as the willingness to help customers and provide prompt service. It is consistently identified as a key differentiator in competitive financial markets. Empirical studies indicate that this dimension often has the strongest influence on the customer experience; Karmacharya [15] observed that among all service quality dimensions, responsiveness shows the highest positive correlation with customer satisfaction. This finding is corroborated by Syumantra and Aslami [25], whose research in the life insurance sector confirms that timely communication and effective service delivery are the most critical drivers of policyholder satisfaction.

However, operationalizing this responsiveness remains a challenge in developing regions. Researchers warn that in the African insurance context, operational deficiencies—especially delayed complaint handling and bureaucratic slowness—are the most significant impediments to customer retention [9, 29]. Karmacharya [15] supports this, noting that in critical service systems, users prioritize promptness above all else, often regarding delays as a sign of incompetence. Consequently, responsiveness is a major competitive differentiator. Sharma et al. [14] argues that responsiveness is the key factor that shapes customer perceptions. This is particu-

larly relevant when comparing sectors; Shetty et al.[11] note that a "willingness to help" is often the primary competitive advantage private institutions hold over public ones. Skaf et al.[18] add that during volatile economic periods, the speed of response becomes the primary mediator of the relationship between technology adoption and customer loyalty.

H3. *There is a significant positive relationship between responsiveness and customer satisfaction among Ethiopian insurance companies.*

2.4.4. Assurance and Customer Satisfaction

In the SERVQUAL model, assurance refers to employees' knowledge, competence, and courtesy, as well as their ability to inspire trust and confidence. This dimension is particularly vital for high-credence goods, such as insurance, where customers cannot test the product before purchase and must rely entirely on the provider's promise. Wang et al.[4] found that in emerging NBFI markets, assurance is the strongest driver of customer satisfaction because staff competence directly mitigates the customer's inherent fear of financial loss.

Empirical evidence consistently indicates that assurance is a dominant predictor of satisfaction. In the context of insurance, Henseler et al.[30] identified assurance as the most influential variable in customer satisfaction, with a greater impact than other service quality dimensions. This aligns with findings from the Iranian insurance market[31], which observed that assurance had the smallest gap between customer expectations and perceptions.

The necessity of this dimension is further supported by Sharma et al.[14], who demonstrated that perceived security is a non-negotiable prerequisite for behavioral intention to adopt financial technology. Salmah and Shikur[3] support this, suggesting that when customers feel "safe" in their transactions due to knowledgeable staff, satisfaction levels rise significantly. Advanced methodological studies using Fuzzy AHP and TOPSIS by Sharma et al.[14] further highlight the importance of assurance, while Syumantra and Aslami[25] confirms its positive and significant relationship with satisfaction. Wang et al.[4] conclude that in service-heavy industries, assurance is indispensable for building stakeholder confidence.

H4. *There is a significant positive relationship between assurance and customer satisfaction in Ethiopian insurance companies.*

2.4.5. Empathy and Customer Satisfaction

In the SERVQUAL framework, empathy is defined as the provision of caring, individualized attention to customers[30]. It serves as a vital bridge between rigid financial protocols and human needs. Wang et al.[4] highlights the pivotal role of empathy in high-contact sectors, particularly in the insurance industry, where it is crucial for building trust during stressful situations like claims processing[32, 33].

Shetty et al.[11] note that in highly bureaucratic financial sectors, empathy is often the weakest dimension because operational protocols prioritize standardization over personalization. Despite this, empirical evidence confirms its necessity. Syumantra and Aslami[25] found a positive and significant relationship between empathy and customer satisfaction in the life insurance industry. Furthermore, Byakutaga[6] argues that empathy remains a critical differentiator in community-based lending and microfinance. de Figueiredo Marcos and de Matos Coelho[21] conclude that while functional quality (reliability) attracts customers, it is the emotional bond formed through empathy that fosters long-term advocacy. Karmacharya[15] supports this, identifying empathy alongside assurance and tangibility as key drivers of satisfaction[2, 27].

H5. *There is a significant positive relationship between empathy and customer satisfaction in Ethiopian insurance companies.*

2.5. Synthesis of the Research Gap

Although the SERVQUAL model[22] is widely utilized across various global contexts, its structural application in emerging African economies remains inconsistent. Current global service marketing discourse explores whether relational dimensions, such as empathy, serve as universal theoretical drivers or context-specific variables dependent on market maturity. This study identifies a critical research gap: the absence of advanced structural modeling (PLS-SEM) that accounts for "operational rigidity" and the bureaucratic constraints characteristic of the Ethiopian financial sector. By analyzing the five service dimensions simultaneously, this research addresses the empirical gap left by previous descriptive studies, providing a more rigorous, analytically substantiated understanding of the customer-firm relation-

ship in developing markets.

2.6. Conceptual Framework

The conceptual framework (**Figure 1**) for this study is based on the SERVQUAL model originally developed by Parasuraman et al.[22]. While the core elements of the five dimensions, tangibility, reliability, responsiveness, assurance, and empathy, are rooted in this well-established theory, the model has been adaptively customized for the Ethiopian insurance industry. Specifically, the model extends the traditional framework by examining the 'Functional Priority Paradox' and assessing whether the technical and risk-reduction aspects (assurance and reliability) are more important than relational aspects (empathy) in a bureaucratic, emerging market setting.

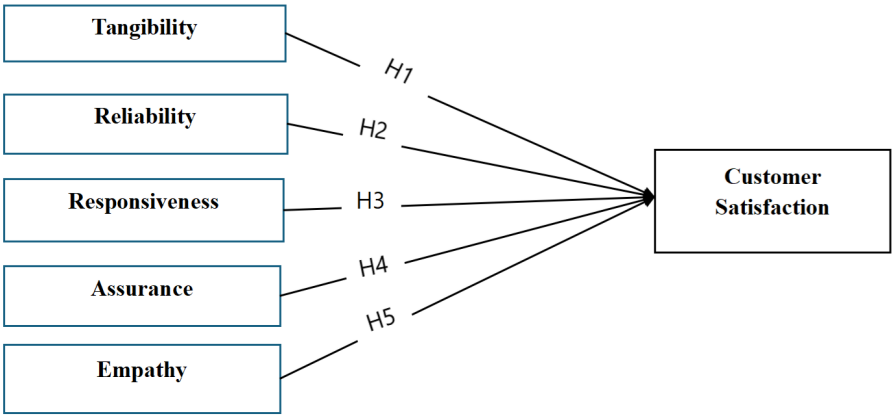

Figure 1. Conceptual Framework.

Source: Adapted Conceptual Model (Based on Chatterjee et al.[28]).
Note: Hypotheses H1 through H5 are structurally mapped to the directional arrows illustrating the pathways from the five service quality dimensions to customer satisfaction.

3. Research Methodology

To achieve the study's objective of identifying the drivers of customer satisfaction in the Ethiopian insurance sector, this research adopts a quantitative methodology grounded in the positivist paradigm. The study uses the SERVQUAL framework to evaluate service quality across five dimensions: tangibility, reliability, responsiveness, assurance, and empathy. Partial Least Squares Structural Equation Modeling (PLS-SEM) is used to empirically test the relationships among these dimensions and the target construct, customer satisfaction.

3.1. Sampling Design and Target Population

Consistent with the study's objective to evaluate service quality from an institutional perspective, the research targeted the workforce of the Ethiopian insurance sector. The population for this study comprises employees of the 17 conventional insurance providers currently operating in Ethiopia. This group was selected because its members possess deep operational knowledge of the service delivery process and the industry's internal standards.

The study used a non-probability sampling design that combined purposive and systematic sampling. Purposive sampling was used to identify key administrative and front-line staff at the headquarters and major branches of these 17 providers in Addis Ababa. This specific approach was justified to ensure respondents possessed the specialized knowledge required to accurately assess tangibility, reliability, and responsiveness. A systematic sampling approach was then used to extend reach across departments, leveraging the professional networks of the initial employee participants to ensure a representative spread from all 17 conventional firms and prevent departmental bias. The decision to measure customer satisfaction using employee responses rather than direct customer feedback was necessitated by strict institutional privacy regulations that restricted access to policyholder databases. To justify this approach conceptually, this study relies on Boundary Spanning Theory[33]. Front-line and administrative employees serve as boundary spanners, constantly interacting with policyholders, processing claims, and managing complaints. Consequently, they pos-

sess deep, internalized insights into systemic service failures and customer satisfaction levels. While this proxy approach provides a valuable systemic evaluation, its methodological implications are carefully noted.

3.2. Data Collection and Instrument

The data were collected using a structured questionnaire adapted from the validated SERVQUAL scales and tailored to assess employees' perceptions of their organization's service performance. Items in the questionnaire were measured on a standardized 5-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), enabling robust quantitative evaluation. By focusing on employees across all 17 conventional providers, the study captures a comprehensive "inside-out" view of the industry's strengths and weaknesses. Furthermore, a Cronbach's alpha test was conducted during the pilot phase to confirm the internal consistency and validity of the measurement instrument prior to structural modeling.

A total of 350 questionnaires were distributed to employees of these companies. This sample size is considered "good" for factor analysis[9] and provides sufficient statistical power for PLS-SEM analysis[13, 34]. After data cleaning, 28 incomplete responses were removed, leaving a final dataset of 336 valid responses. These responses represent a cross-section of the Ethiopian insurance workforce, providing a robust empirical basis for analyzing how service quality dimensions influence the perceived satisfaction of the industry's delivery model.

3.3. Model Specification (PLS-SEM)

The researcher selected PLS-SEM to analyze the complex relationships among the identified exogenous and endogenous (Customer Satisfaction) variables. This analytical strategy enables the simultaneous assessment of the measurement model (validity and reliability) and the structural model (path coefficients). Researchers argue that this method is particularly effective for identifying key drivers in complex service environments where data may not strictly adhere to normal distribution[14].

The relationship between exogenous and endogenous variables is outlined below:

$$\mathrm{CS} = \beta_0 + \beta_1 \mathrm{TA} + \beta_2 \mathrm{RE} + \beta_3 \mathrm{RES} + \beta_4 \mathrm{AS} + \beta_5 \mathrm{EM} + \varepsilon$$

Where:

CS = Customer Satisfaction.

β_0 = Constant.

$\beta_1 - \beta_5$= Exogenous variables coefficient.

TA = Tangibility.

RE = Reliability.

RES = Responsiveness.

AS = Assurance.

EM = Empathy.

ε = Error terms.

4. Result and Analysis

4.1. Demographic Analysis

Table 2 presents the demographic profile of the 336 respondents who participated in the study on customer satisfaction. The data were categorized by gender, age, educational status, and professional experience to provide a clear understanding of participant characteristics. In terms of gender composition, the sample is predominantly male, with 272 respondents (80.9%) compared to 64 female respondents (19.1%), indicating significant male representation.

Table 2. Respondents' profile.

Features	Category	Frequency	Percent
Gender	Male	272	80.9
	Female	64	19.1
	Total	**336**	**100**
Age	Below 30	18	5.3
	31–40	133	39.7
	41–50	130	38.6
	Above 50	55	16.4
	Total	**336**	**100**

Table 2. *Cont.*

Features	Category	Frequency	Percent
Educational Status	Degree	232	69.1
	MSc	96	28.6
	PhD and Above	8	2.3
	Total	**336**	**100**
Experience	Less than 10 years	135	40.2
	10–15 years	137	40.7
	Above 15 years	66	19.1
	Total	**336**	100

Source: Researchers' own.

The age distribution of the 336 respondents shows that the majority are in mid-career. Specifically, the largest group falls within the 31–40 age bracket (133 respondents, 39.7%), followed closely by those aged 41–50 (130 respondents, 38.6%). Older participants aged 50 or older represent 16.4% of the sample, while those under 30 make up the smallest segment at 5.3%. This suggests that the feedback gathered represents a mature, experienced customer base.

Regarding educational attainment, the participants are highly qualified, which adds substantial credibility to the research findings. The majority of respondents hold a bachelor's degree (232 individuals, 69.1%), while 96 respondents (28.6%) have obtained an MSc degree. A specialized group of 8 individuals (2.3%) holds a PhD or higher qualification. Furthermore, the professional experience profile shows that 40.7% of respondents have 10–15 years of experience, 40.2% have less than 10 years, and the remaining 19.1% have served for over 15 years. This high level of education and extensive experience ensures that the 336 respondents provided informed and reliable perspectives on service quality and satisfaction.

Table 3 presents the descriptive statistics for the variables analyzed in this study. The mean indicates the typical response on the survey scale, while the standard deviation reflects the variability of responses among the 336 participants. To make it easier to understand these results, the five-point response scale was changed into three ordinal categories: scores below 2 were called low, scores between 2 and 3 (not including 3) were called moderate, and scores of 3 and above were called high [33].

Table 3. Descriptive statistics.

Variables	N	Mean	Std. Deviation
Tangibility	336	3.72	0.855
Reliability	336	3.53	0.933
Responsiveness	336	2.92	0.968
Assurance	336	3.67	0.871
Empathy	336	3.89	0.860
Customer Satisfaction	336	3.65	0.825

Source: Researchers' own.

The findings show that respondents perceived most variables positively. The mean scores for empathy, tangibility, assurance, and reliability were all in the high range, underscoring a strong positive view of these aspects within the Ethiopian insurance sector. This suggests that policyholders generally hold a favorable view of the physical facilities, the staff's knowledge, and the dependability of the services provided. Similarly, the overall perception of customer satisfaction was in the high range, indicating that respondents held a generally favorable view of their overall experience.

Conversely, a moderate level of perception was recorded for Responsiveness. Because this score falls within the moderate range, it indicates a perceived gap in the service provider's speed and willingness to assist. While the technical and physical dimensions of the service are considered high, the responsiveness of personnel is considered a moderate priority that requires further organizational attention. Overall, the high level of satisfaction among the 336 respondents suggests a solid foundation for the industry, provided

that the moderate level of responsiveness is addressed to meet evolving customer expectations.

4.2. Measurement Model Analysis

The measurement model's reliability and validity were evaluated to confirm the study's statistical robustness. Construct reliability was verified as Cronbach's alpha (α) and composite reliability (CR) values surpassed the 0.7 standard[10, 13], with every latent variable showing α and CR coefficients above 0.70, as shown in **Table 4**. Convergent validity was demonstrated through the Average Variance Extracted (AVE), with all constructs having AVE values between 0.622 and 0.687, exceeding the minimum threshold of 0.5[12, 16]. Furthermore, all factor loadings retained were above 0.7, as noted in **Table 4**.

Table 4. Measurement model result.

Constructs	Items	Loading	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Tangibility	TA1	0.763	0.849	0.897	0.687
	TA2	0.894			
	TA3	0.834			
	TA4	0.818			
Reliability	RE1	0.811	0.721	0.836	0.631
	RE2	0.740			
	RE4	0.830			
Responsiveness	RES1	0.822	0.840	0.893	0.675
	RES2	0.811			
	RES3	0.806			
	RES4	0.848			
Assurance	AS1	0.767	0.847	0.897	0.686
	AS3	0.867			
	AS4	0.877			
	AS6	0.797			
Empathy	EM1	0.927	0.854	0.893	0.677
	EM2	0.845			
	EM3	0.761			
	EM4	0.746			
Customer Satisfaction	CS1	0.795	0.798	0.868	0.622
	CS2	0.782			
	CS3	0.760			
	CS5	0.816			

Source: Researchers' own.

Discriminant validity was evaluated using the Fornell-Larcker and heterotrait-monotrait (HTMT) criteria. As shown in **Table 5**, the Fornell-Lacker criterion was satisfied because the square root of each latent variable's AVE was higher than its highest correlation with any other latent variable[11, 35]. Additionally, most HTMT values were below the 0.85 threshold[16], as indicated in **Table 6**, confirming the discriminant validity among the variable dimensions.

Table 5. Discriminant validity using Fornell and Lacker criterion.

Items	Assurance	Customer Satisfaction	Empathy	Reliability	Responsiveness	Tangibility
Assurance	0.828					
Customer Satisfaction	0.657	0.789				
Empathy	0.055	0.083	0.823			
Reliability	0.551	0.744	0.024	0.794		

Table 5. *Cont.*

Items	Assurance	Customer Satisfaction	Empathy	Reliability	Responsiveness	Tangibility
Responsiveness	0.432	0.474	0.004	0.288	0.822	
Tangibility	0.341	0.609	0.132	0.462	0.259	0.829

Source: Researchers' own.

Table 6. HTMT criterion.

Items	Assurance	Customer Satisfaction	Empathy	Reliability	Responsiveness	Tangibility
Assurance						
Customer Satisfaction	0.790					
Empathy	0.074	0.096				
Reliability	0.688	0.914	0.057			
Responsiveness	0.506	0.588	0.046	0.371		
Tangibility	0.384	0.717	0.149	0.527	0.300	

Source: Researchers' own.

In the measurement model, items with loadings below 0.70, such as RE3, AS2, AS5, and CS4, were removed to improve construct reliability. After their removal, the validity assessment showed that all remaining items met the recommended standards. Cronbach's Alpha and Composite Reliability values consistently stayed above 0.70, indicating internal consistency, while Average Variance Extracted (AVE) values surpassed 0.50, confirming convergent validity (see **Table 4**). Overall, removing low-loading items enhanced the measurement model and increased the reliability of the latent constructs. **Figure 2** below illustrates the standardized factor loadings and path coefficients for the six latent constructs (tangibility, reliability, responsiveness, assurance, and empathy) influencing customer satisfaction.

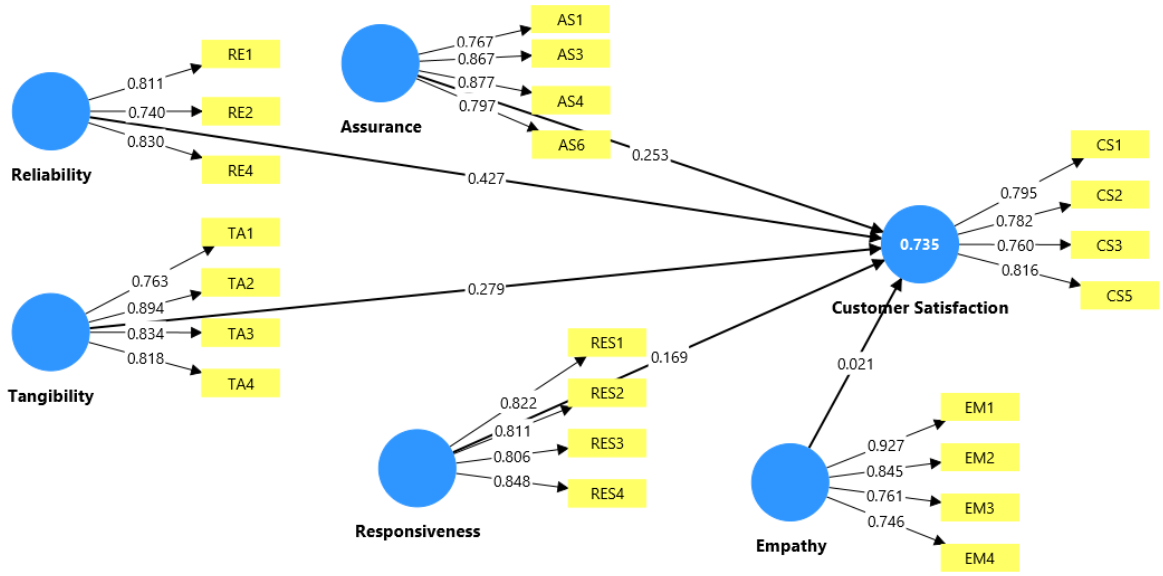

Figure 2. Measurement Model Results for Customer Satisfaction.

Source: Researchers' own analysis.

4.3. Structural Model Analysis

The analysis of the structural model began by examining the coefficient of determination (R^2), which measures the proportion of variance in the dependent variable explained by the independent variables. As shown in **Table 7**, the model produced an R^2 of 0.735, meaning that 73.5% of the variation in customer satisfaction among participants is ac-

counted for by the predictor variables: tangibility, reliability, responsiveness, assurance, and empathy. This high R^2 value highlights the strong combined effect of these service quality dimensions on respondents' overall satisfaction.

Table 7. R-square (R^2) measure.

Items	R-Square	R-Square Adjusted
Customer Satisfaction	734	0.731

Source: Researchers' own.

The effect size (Cohen's f^2) was used to assess the individual contribution of each exogenous variable[36]. Reliability showed a strong effect ($f^2 = 0.419$), while tangibility exhibited a moderate effect ($f^2 = 0.221$). Assurance and responsiveness showed weak to moderate effects, respectively. As indicated in **Table 8**, empathy has a negligible effect ($f^2 = 0.002$) on the structural model. Additionally, **Table 9** shows the Stone–Geisser's Q^2 value for customer satisfaction of 0.724, which is substantially above zero[13], confirmed the predictive relevance[13]. Finally, the Variance Inflation Factor (VIF) was used to evaluate multicollinearity. All VIF values ranged from 1.022 to 1.641, as shown in **Table 10**, and stayed well below the typical threshold of five[37]. This suggests there are no multicollinearity problems in the research, ensuring the path estimates are stable.

Table 8. Effect Size (f^2).

Items	f-Square
Tangibility → Customer Satisfaction	0.221
Reliability → Customer Satisfaction	0.419
Responsiveness → Customer Satisfaction	0.086
Assurance → Customer Satisfaction	0.147
Empathy → Customer Satisfaction	0.002

Source: Researchers' own.

Table 9. Predictive Relevance (Q^2).

Items	Q^2 Predict	RMSE	MAE
Customer Satisfaction	0.724	0.529	0.398

Source: Researchers' own.

Table 10. Multicollinearity (VIF).

Items	VIF
Tangibility → Customer Satisfaction	1.331
Reliability → Customer Satisfaction	1.641
Responsiveness → Customer Satisfaction	1.254
Assurance → Customer Satisfaction	1.636
Empathy → Customer Satisfaction	1.022

Source: Researchers' own.

4.4. Discussion

This study identifies the factors that influence customer satisfaction in the Ethiopian service sector. The findings show that of the five exogenous variables analyzed (tangibility, reliability, responsiveness, assurance, and empathy), four significantly influenced satisfaction levels among the 336 respondents. Specifically, tangibility, reliability, responsiveness, and assurance were found to have a statistically significant impact on customer perceptions. Conversely, empathy was found to have an insignificant influence on the adoption of high levels of satisfaction among the surveyed participants. These results suggest that in the Ethiopian context, customers prioritize technical competence, physical

infrastructure, and dependable service delivery over personalized emotional attention (**Table 11**).

Table 11 shows that the first hypothesis (H1), which states that tangibility positively impacts customer satisfaction, is supported with an estimated β of 0.279 and $p < 0.001$. As a result, the hypothesis is accepted. This aligns with previous research on consumer behavior in financial services, where physical and digital infrastructure play crucial roles. For example, Ogbeide et al.[17] emphasized that the visual appeal of physical facilities and modernized equipment is essential for success because they influence customer trust in intangible products. Although government initiatives aim to modernize the financial sector, infrastructure constraints often make high-quality service queues inaccessible to many people. In Ethiopia, customers tend to perceive larger firms with greater assets as more financially stable[8]. Additionally, Bharti et al.[5] highlight that without high-quality digital interfaces (referred to as digital tangibility), customers struggle to navigate the purchase process, which underscores the importance of tangible evidence for mobilizing premiums.

Table 11. Hypothesis testing and decision-making.

Items	Beta	SE	*t*-Value	*p*-Value	Decision
Tangibility → Customer Satisfaction	0.279	0.033	8.541	0.000	Do not Reject
Reliability → Customer Satisfaction	0.427	0.036	11.764	0.000	Do not Reject
Responsiveness → Customer Satisfaction	0.169	0.032	5.339	0.000	Do not Reject
Assurance → Customer Satisfaction	0.253	0.036	6.973	0.000	Do not Reject
Empathy → Customer Satisfaction	0.021	0.029	0.743	0.458	Reject
Intercept	0.000	0.028	0.000	1.000	

Source: Researchers' own.
Customer Satisfaction = 0.279(Tangibility) + 0.427(Reliability) + 0.169(Responsiveness) + 0.253(Assurance) + 0.021(Empathy) + ε

Table 11 presents the results for Hypothesis 2 (H2), which examines how reliability shapes customer satisfaction. The analysis yielded a highly significant effect ($\beta = 0.427$, $p < 0.001$), confirming the hypothesis. This aligns with other research on service reliability. For example, Kyaw[16] found that accurately performing promised services, such as billing and record-keeping, is a key factor in transparency and reduces anxiety during claims settlement. Likewise, Byakutaga[6] emphasizes that the main competitive advantage for financial institutions is the ability to consistently fulfill promises, which is crucial for retaining clients in a volatile economy. Customers tend to stay with providers that ensure error-free processes[38]. This understanding of reliability affects individuals' willingness to trust an insurer's long-term solvency, alleviating concerns about a potential default crisis.

As shown in **Table 11**, the data strongly support Hypothesis 3 (H3), which suggests that responsiveness positively affects customer satisfaction. The analysis revealed a beta coefficient (β) of 0.169 with a significant *p*-value of less than 0.001, meaning this hypothesis is accepted. This result aligns with earlier research on time-sensitive services. For instance, Comrey and Lee[9] highlights that quick responses and active handling of complaints foster customer loyalty despite internal dissatisfaction. This is particularly important in Ethiopia, where a service provider that emphasizes speed and helpfulness immediately stands out over bureaucratic delays. Studies indicate that responsiveness is key to maintaining relationships and to providing a secure environment for customers during the claims process[10].

The analysis of Hypothesis 4 (H4), detailed in **Table 11**, suggests that assurance significantly influences customer satisfaction. This conclusion is supported by a beta coefficient (β) of 0.253 and a statistically significant $p < 0.001$. This finding is consistent with prior research regarding the distinctive characteristics of insurance, which necessitate a high level of trust. Halim et al.[39] emphasize that stakeholders must possess deep trust in the institution's credibility to engage in financial transactions. Salmah and Shikur[3] identified employee knowledge and courtesy as critical structural factors for instilling confidence. This conclusion underscores how competence mitigates perceived risk; as Skaf et al.[18] suggested, high human capital competence is a prerequisite for safely selling complex financial products, as unskilled staff increases the likelihood of misunderstandings.

Analysis of Hypothesis 5 (H5), presented in **Table 11**, shows that empathy does not have a significant effect on customer satisfaction among the 336 respondents. The beta

coefficient (β) is 0.021, and the *p*-value of 0.458 indicates non-significance. This result diverges from broader Western marketing studies but is understandable within the Ethiopian context. Firstly, the main obstacle is the "Blue Ocean" market environment, where demand for basic coverage exceeds supply, so institutions are not under pressure to offer personalized care to retain customers [8, 32]. Secondly, structural bureaucracy shifts value from "caring" to "functioning," with customers valuing receiving a claim check over how it was delivered. As Comrey and Lee [9] points out, deep emotional bonds are considered a luxury rather than a necessity in a market dominated by compulsory products. This overall challenge in a developing industry reduces the relevance of empathy as a key factor in this group's decision-making.

5. Conclusions

The investigation into the determinants of customer satisfaction within the Ethiopian insurance industry reveals a clear dichotomy: functional and tangible organizational strengths drive satisfaction, while soft relational skills, such as empathy, remain statistically secondary. By rigorously applying the SERVQUAL framework and PLS-SEM, the analysis confirms that tangibility, reliability, responsiveness, and assurance are not merely beneficial but essential prerequisites for satisfaction.

The study finds that the empathy dimension is statistically insignificant in this model. However, this result must be interpreted with caution. Rather than representing a universal theoretical shift, this insignificance is a context-specific finding that aligns with observations in other heavily regulated regional markets [11, 16]. It may reflect the current transitional phase of the Ethiopian market, or it could be an artifact of measuring satisfaction through employee proxies, who may undervalue the emotional elements of service compared to the end user. Therefore, this finding cannot be generalized without future customer-level cross-validation. However, the insignificant finding regarding empathy should be treated as a contextual outlier specific to the current market stage, rather than a permanent rule for long-term insurance success. Furthermore, identifying reliability as the paramount positive determinant confirms that Ethiopian policyholders are currently driven by an imperative for speed and efficiency rather than by emotional connection.

5.1. Policy Recommendations

Consistent with the insights and regulatory considerations outlined by Adebayo and Afolayan [40], this study proposes a unified roadmap to accelerate sector maturity. First, the National Bank of Ethiopia must swiftly address service delays by implementing strict Service Level Agreements (SLAs) for claims processing. This regulatory step would reinforce Responsiveness, which the model highlights as vital. Insurance companies should take the lead in closing the skills gap by building technical expertise at the organizational level. It is crucial for organizations to allocate significant funds toward specialized training programs that build staff knowledge, thereby fostering assurance and addressing the human capital limitations identified by Halim et al. [39]. Lastly, to resolve trust issues, institutions should focus on tangibility. Investing in digital platforms and modernizing physical branches is an effective way to lower perceived risk, thereby promoting quicker market acceptance, as recommended by Ogbeide et al. [17].

5.2. Theoretical Implications

This study significantly advances the SERVQUAL framework by elucidating the contextual limitations of the "Empathy" dimension. It challenges the prevailing assumption that all five dimensions are universally equal. Specifically, within the Ethiopian context, functional necessities (reliability/responsiveness) outweigh relational niceties. This supports a more nuanced application of the model in developing African economies, suggesting that customer satisfaction models must be tailored to a hierarchy of needs in which risk reduction (assurance) precedes personalization (empathy). By identifying the 'Functional Priority Paradox,' this study effectively fills the gap concerning the universality of service quality dimensions. It demonstrates that in emerging markets, risk-reduction and technical competence are not just equal to but are essential factors that statistically surpass relational aspects at this stage of market development.

5.3. Limitations and Future Research

A critical limitation of this study is the use of employee responses as a proxy for measuring customer satisfaction.

This empirical design raises valid concerns about construct validity, as employees may inadvertently overestimate service quality or misalign with customers' true perceptions. Furthermore, using a single respondent group for both independent and dependent variables introduces the risk of common method bias[41]. Future research must address these limitations by prioritizing direct customer-level data collection and conducting robustness checks to validate the true impact of empathy and relationship marketing in this sector.

Author Contributions

Conceptualization, M.S.H. and A.D.J.; methodology, M.S.H. and A.D.J.; software, M.S.H.; validation, M.S.H., A.D.J., and G.D.W.; formal analysis, M.S.H.; investigation, M.S.H. and A.D.J.; resources, A.D.J. and G.D.W.; data curation, M.S.H.; writing—original draft preparation, M.S.H.; writing—review and editing, A.D.J. and G.D.W.; visualization, M.S.H.; supervision, G.D.W.; project administration, A.D.J. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement

Ethical review and approval were waived for this study because it involved an anonymous survey of professional employees about organizational service quality and did not collect sensitive personal or medical data.

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

The data presented in this study are available on request from the corresponding author. The data are not publicly available due to privacy agreements with the participating insurance providers and their employees.

Conflicts of Interest

The authors declare no conflict of interest.

AI Use Statement

During the preparation of this work, the authors used QuillBot Premium to proofread the manuscript for grammatical accuracy and to enhance the clarity of the academic language. After using this service, the authors reviewed and edited the content as needed and take full responsibility for the content of the published article.

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