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ELECTRONIC WORD-OF-MOUTH AS MARKET SIGNAL: THE ECONOMIC IMPACT ON CONSUMER SATISFACTION AND DIGITAL MARKET EFFICIENCY IN SOUTH AFRICAN E-COMMERCE

Abstract:

In digital economies, electronic word-of-mouth (e-WOM) has emerged as a critical mechanism for reducing information asymmetry in online marketplaces, functioning as an informal yet potent form of market signalling. As consumers increasingly rely on peer-generated content (such as reviews, testimonials, and social media commentary) to guide purchase decisions, e-WOM serves as a public good influencing market behaviour, perceived utility, and post-purchase satisfaction. Despite its growing economic relevance, there remains limited empirical understanding of how distinct e-WOM characteristics shape consumer utility and satisfaction - key drivers of demand stability and long-term market efficiency.

This study investigates the economic impact of seven e-WOM dimensions (namely, argument quality, source credibility, message usefulness, trust in the message, valence, volume, and existing e-WOM) on post-purchase satisfaction among South African millennial consumers in the e-commerce sector. Employing a quantitative design with 405 respondents, data were analysed using Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) following rigorous validity and reliability testing.

The results reveal that three dimensions function as significant market signals: argument quality demonstrates the strongest predictive power ($\beta = 0.112$, $p < 0.01$), followed by credibility ($\beta = -0.075$, $p < 0.05$) and valence ($\beta = -0.041$, $p < 0.01$). Notably, while credibility and valence show statistical significance, their negative coefficients suggest complex market dynamics where overly credible or extremely positive reviews may paradoxically reduce satisfaction, potentially indicating consumer scepticism toward potentially manipulated content. The overall e-WOM model achieved acceptable goodness-of-fit (CFI = 0.898, RMSEA = 0.055), with individual construct reliabilities exceeding the 0.7 threshold, confirming robust measurement validity.

Economically, the findings demonstrate that effective e-WOM ecosystems can enhance consumer welfare by reducing transaction costs and information search expenses. However, the negative relationships observed suggest diminishing returns to overly positive or credible reviews, indicating market sophistication where consumers discount potentially biased information. E-commerce organisations must therefore balance authentic, well-argued reviews rather than pursuing maximum positive sentiment, contributing to more efficient price discovery and reduced market manipulation.

This research contributes to behavioural economics and digital market theory by quantifying e-WOM's complex signalling role within emerging economy contexts. The findings suggest that platform design policies promoting authentic, balanced information flows - rather than simply positive reviews - could enhance market efficiency and consumer protection. While focused on South African millennials, the theoretical framework offers insights applicable to emerging digital markets globally, though cultural variations in trust and credibility perceptions warrant further investigation across different market structures and demographic segments.

Keywords:

Electronic word-of-mouth (e-WOM), Post-purchase behaviour, Customer relationship marketing, Generation Y (Gen Y), Millennials

JEL Classification: M31, L81, D12

1. Introduction

Electronic word-of-mouth (e-WOM) has become a pivotal influence on consumer behaviour and business outcomes. The pervasive reach and instantaneous nature of e-WOM through social media, online reviews, and digital platforms have transformed how consumers share and receive information (Hennig-Thurau et al., 2004). E-WOM is characterised by its permanence, broad reach, and accessibility, making it a critical component of contemporary marketing strategies, especially in e-commerce (Ismagilova et al., 2020). Consumers now have the power to influence each other on an unprecedented scale, thereby shaping brand perceptions and purchase decisions. As such, e-commerce organisations must navigate this landscape adeptly to foster positive consumer experiences and outcomes.

Generation Y consumers, born between 1981-1996 and aged 28-43 in 2024, represent the first truly digital-native generation to reach peak earning potential and market influence (Radial, 2024). Recent research indicates that Millennials are more mature with established careers, getting married, buying homes, and having children, making them a critical demographic for e-commerce investment. Contemporary data shows that 75% of Millennials prefer online shopping, with nearly six in ten Generation Zs and Millennials making half or more of their purchases online. Their unique relationship with digital communication technologies, particularly electronic word-of-mouth (e-WOM), fundamentally differs from previous generations due to their native fluency with social media platforms, online review systems, and sophisticated digital information processing capabilities (Theodorakopoulos & Theodoropoulou, 2024).

The strategic importance of understanding Generation Y's e-WOM behaviour has intensified as this cohort increasingly dominates consumer markets. Recent research demonstrates that Millennials strongly prefer online shopping and are significantly influenced by e-WOM communications in their purchase decisions (Porch Group Media, 2024). Moreover, Generation Y consumers demonstrate sophisticated digital literacy skills that enable them to evaluate information authenticity more effectively than older cohorts, with 80% of their online shopping compared to 65% for Generation X (Porch Group Media, 2024). This demographic relies heavily on third-party reviews and trust-building elements when purchasing decisions, particularly for newly launched technological products (Theocharis et al., 2025).

From a theoretical perspective, market signalling theory provides a compelling framework for understanding how Generation Y consumers process e-WOM information. Signalling theory posits that transmitting information from one individual to another can influence receiver behaviour, with signals referring to any physical or behavioural trait senders use to alter receiver perceptions (Dunham, 2011; Spence, 2002). Unlike previous generations who relied on traditional word-of-mouth and expert opinions, Generation Y consumers have developed sophisticated mechanisms for evaluating digital signals, often prioritising peer-generated content over corporate communications. Recent advances in understanding consumer digital signals demonstrate how these emissions throughout consumer activities are fundamentally reshaping the customer journey (Schweidel et al., 2022).

The South African context presents unique opportunities for examining Generation Y e-WOM behaviour due to the country's rapid digital transformation and diverse consumer landscape. South Africa's e-commerce market is projected to reach R225 billion by 2025, driven primarily by Generation Y adoption of digital shopping channels (Thenga, 2024). However, limited research has examined how e-WOM dimensions specifically influence Generation Y consumer satisfaction in emerging market contexts, creating a significant gap in both theoretical understanding and practical application.

This study addresses this gap by investigating the strategic allocation of e-WOM resources for maximum Generation Y consumer satisfaction impact. Using market signalling theory as the primary theoretical lens, the study examines how seven distinct e-WOM dimensions - argument quality, credibility, usefulness, existing e-WOM, trust in message, valence, and volume - function as market signals influencing post-purchase satisfaction among South African Generation Y consumers. The research contributes to digital marketing literature by providing theoretically grounded insights into Generation Y-specific e-WOM processing mechanisms while offering practical guidance for strategic resource allocation in e-commerce environments.

2. Literature review and problem investigated

This section comprehensively examines the theoretical foundations underlying Generation Y consumer behaviour in digital environments, with particular emphasis on market signalling theory applications to e-WOM communications. The review establishes the conceptual framework for understanding how this unique demographic processes e-WOM information differently from previous generations.

2.2 Generation Y Consumer characteristics and digital behaviour

Generation Y, also known as Millennials, represents the first generation to grow up with widespread internet access and digital technologies (Priporas, Stylos & Fotiadis, 2017). Born between 1981-1996 and aged 28-43 in 2024, this cohort is characterised by high digital literacy, preference for authentic communication, and sophisticated information processing capabilities that distinguish them from previous generations (Radial, 2024). Contemporary research reveals that Generation Y consumers exhibit unique online shopping behaviours, including heavy reliance on peer reviews, social media recommendations, and user-generated content for purchase decision-making (Syamsudin, Sabirin & Elliyana, 2025).

Recent empirical studies demonstrate that Generation Y consumers possess sophisticated mechanisms for evaluating online information credibility, often employing multiple verification strategies before making purchase decisions (Theocharis et al., 2025). The influence of perceived risk significantly impacts consumer behaviour, leading them to rely on critical trust-building elements such as brand image, warranties, and third-party reviews. Unlike older generations who may depend on single information sources, Generation Y consumers typically cross-reference multiple e-WOM sources, actively seek balanced reviews, and demonstrate heightened scepticism toward potentially manipulated content (Anastasiei, Dospinescu & Dospinescu, 2024).

2.3 Market signalling theory in digital contexts

Spence (1973) originally developed market signalling theory to explain information asymmetry in labour markets, which has evolved to encompass digital communication contexts where information quality and authenticity are paramount concerns. In contemporary digital marketing, signalling theory explains how companies use various signals to communicate their value effectively, with brands leveraging digital tools to enhance communication strategies and improve engagement (Wischnewski, 2024). The theory posits that effective signals must be costly to fake, observable by receivers, and correlated with underlying quality, with signalling significantly impacting market dynamics by leading to market separation and influencing consumer behaviour (Open University, 2024; Spence, 2002).

Recent applications of signalling theory to digital marketing contexts demonstrate its relevance for understanding e-WOM effectiveness. Contemporary research shows how consumer digital signals are reshaping the customer journey, with marketers adopting increasingly sophisticated ways to engage with customers throughout their activities (Schweidel et al., 2022). However,

the effectiveness of these signals depends on consumers' ability to distinguish between authentic and manipulated content, a capability that varies significantly across demographic segments and is particularly sophisticated among Generation Y consumers (Theodorakopoulos & Theodoropoulou, 2024).

Due to their digital nativity and sophisticated information processing capabilities, Generation Y consumers represent a unique signalling environment where traditional assumptions about signal effectiveness may not hold. Recent research demonstrates that this demographic has developed advanced filtering mechanisms that enable them to identify and discount potentially manipulated e-WOM content, leading to counter-intuitive relationships between traditionally positive signals and consumer satisfaction (Anastasiei, Dospinescu & Dospinescu, 2024).

2.1 Electronic word-of-mouth (e-WOM) defined

With the advent of the Internet, e-WOM has emerged as a pivotal form of consumer communication, revolutionising how individuals share and receive information about products and services (Hennig-Thurau et al., 2004). The transition from traditional WOM to e-WOM has reshaped consumer communication, making it essential to understand the unique attributes and impacts of e-WOM (Hur, 2016; Dellarocas, 2003).

Traditional WOM, known for its informal, interpersonal nature, has long influenced consumer decisions due to its perceived trustworthiness (Kumar et al., 2023). WOM encompasses various customer-to-customer (C2C) activities, from casual mentions of product experiences to direct recommendations, and is deemed more reliable than organisational communications like advertising (Berger, 2014). Studies have shown that WOM accounts for a significant portion of purchasing decisions and is more effective than traditional advertising (Knox, 2013; Bughin, Doogan & Vetvik, 2010).

In contrast, e-WOM occurs through digital platforms, offering asynchronous, widely accessible, and permanent communication (Kumabam, Meitei, Singh & Singh, 2017). The emergence of online platforms has transformed WOM into e-WOM, a powerful tool in the digital age (Elsie, Tulung & Tielung, 2023; Kotler & Armstrong, 2019). E-WOM includes any positive or negative statements consumers make about products or services via the Internet (Hennig-Thurau et al., 2004).

2.2 Electronic word-of-mouth (e-WOM) dimensions and market signalling theory

From a market signalling perspective, e-WOM dimensions function as information signals that reduce uncertainty and information asymmetry between buyers and sellers in digital markets (Fan, Zhang & Rai, 2021). Signalling theory posits that signals are "activities or attributes of individuals in a market which, by design or accident, alter the beliefs of, or convey information to, other individuals in the market" (Spence, 1974). In e-commerce, e-WOM is a critical market signal where consumers actively use reviews and ratings to communicate their experiences and inform others about product quality and firm performance (Beck et al., 2023).

The effectiveness of e-WOM as a market signal depends on various dimensional characteristics that influence consumer perception and adoption of the transmitted information (Liu et al., 2024). Recent meta-analytical evidence demonstrates that certain e-WOM dimensions function as stronger market signals than others, with argument quality, valence, and usefulness emerging as influential consumer intention predictors (Ismagilova et al., 2020). Understanding these dimensions enables e-commerce retail organisations to strategically manage and leverage e-WOM signalling mechanisms to enhance their post-purchase consumer satisfaction outcomes. The seven dimensions of e-WOM are argument quality, credibility, usefulness, existing e-WOM, trust in message, valence and volume (Roy et al., 2024; Ismagilova et al., 2020).

Argument quality

Argument quality in e-WOM pertains to the persuasiveness and robustness of online reviews and comments (Pillay, 2021). As a market signal, argument quality is a diagnostic indicator of information reliability, with high-quality arguments characterised by relevance, accuracy, and comprehensiveness significantly influencing consumer confidence and satisfaction (Knight, Haddoud & Megicks, 2022; Tsao & Hsieh, 2015). Meta-analytical evidence identifies argument quality as one of the most effective predictors of consumer intention, suggesting its strong signalling value in reducing information uncertainty (Ismagilova et al., 2020). Recent research demonstrates that well-structured, detailed arguments serve as credible signals that enhance consumers' perceived diagnosticity of e-WOM content, ultimately leading to increased purchase intention and satisfaction (Li, Chen & Chen, 2023).

Credibility

The credibility of e-WOM messages functions as a crucial market signal affecting consumer trust and decision-making processes (Filieri et al., 2021). From a signalling perspective, source credibility serves as a peripheral cue that consumers use to evaluate information quality when they lack the motivation or ability to process central arguments (Ahmad et al., 2020). However, recent studies suggest complex dynamics where overly credible sources may paradoxically trigger consumer scepticism, particularly in suspected manipulation (Le et al., 2024). Research indicates that perceived credibility correlates with purchase intentions, though the relationship may be moderated by consumer sophistication and market context (Verma & Dewani, 2021).

Usefulness

E-WOM usefulness represents how consumers perceive review information as relevant and beneficial for their decision-making process (Ruangkanjanases, Jeebjong & Sanny, 2021; Erkan & Evans, 2018). As a market signal, usefulness is a quality indicator influencing information adoption and subsequent consumer behaviour (Duarte, e Silva & Ferreira, 2018). Recent research examining social e-commerce platforms demonstrates that information quality and perceived usefulness significantly affect consumer trust and purchase intentions through their signalling value (Wang et al., 2024). The diagnostic value of useful e-WOM enhances consumer confidence by providing relevant decision-making information that reduces uncertainty about product performance.

Existing e-WOM

Existing e-WOM, encompassing previous consumer feedback and reviews, serves as social proof and functions as a volume-based market signal influencing new consumers' attitudes and behaviours (Charles, 2023; Kuo & Nakhata, 2019). From a signalling theory perspective, accumulating existing reviews creates a signalling environment where product popularity and market acceptance are communicated through aggregate feedback (Maru & Sai Vijay, 2024). Positive existing e-WOM enhances trust and perceived value, driving higher satisfaction and repeat business by signalling product quality and firm reliability (Ao et al., 2023).

Trust in Message

Trust in e-WOM messages reflects individuals' confidence in the conveyed information and mediates information characteristics and consumer responses (Ismagilova et al., 2020). Recent research demonstrates that trust in e-WOM content significantly moderates the relationship between information quality and purchase intention, functioning as a critical signalling mechanism in social commerce environments (Zhao et al., 2020). High trust levels correlate with positive purchase intentions, satisfaction, and loyalty, suggesting its importance as a market signal (Malik & Rizwan, 2021; Saleem & Ellahi, 2017).

Valence

Valence refers to the positive or negative tone of e-WOM and functions as an affective market signal that influences consumer perceptions and decision-making (Kim, Yoon & Choi, 2019; Roy, Datta & Mukherjee, 2019). From a signalling perspective, review valence provides immediate emotional cues about product quality and consumer satisfaction levels (Lee et al., 2014). However, recent studies suggest complex signalling dynamics where extremely positive valence may paradoxically reduce consumer trust due to perceived manipulation, indicating sophisticated consumer filtering mechanisms in digital markets (Akdim, 2021). This suggests that balanced valence may serve as a more effective authenticity signal than uniformly positive sentiment.

Volume

The volume of e-WOM, representing the quantity of messages about a product or service, signals market popularity and consumer engagement levels (Li et al., 2017; Mishra & Satish, 2016). As a market signal, review volume is a popularity indicator influencing consumer perceptions of product acceptance and market validation (Liu, Shaalan & Jayawardhena, 2022). Meta-analytical evidence suggests that while volume can influence purchase intentions, its signalling effectiveness may be moderated by other factors such as recency and review quality (Donthu et al., 2021).

2.3 Consumer satisfaction and signalling theory in the Generation Y context

Traditionally conceptualised as the alignment between pre-purchase expectations and actual product performance, consumer satisfaction has evolved to encompass complex signalling mechanisms in digital marketplaces (Lamb et al., 2019). From a signalling theory perspective, consumer satisfaction serves both as an outcome of market signalling processes and as a signal, communicating firm quality and performance to stakeholders and future consumers (Zamudio, Mah & Swaminathan, 2025).

Recent research demonstrates that consumer satisfaction is a powerful market signal influencing firm value, stock performance, and investor behaviour (Zamudio, Mah & Swaminathan, 2025). Higher levels of consumer satisfaction signal a firm's competitive advantage, resulting in greater firm value, with portfolios including firms with high consumer satisfaction outperforming stock market performance. This signalling effect has become increasingly important in the digital age, where consumer digital signals - tangible and intangible interactions between consumers and the firm - serve as indicators of consumer interests, preferences, and activities during their journey.

The expectancy-disconfirmation paradigm, which has dominated satisfaction research for over 40 years, can be reinterpreted through a signalling lens where expectations are signals about product quality and firm credibility (Schiebler, Lee & Brodbeck, 2025). Meta-analytical evidence reveals an overall positive relationship between expectations and consumer satisfaction ($r = .29$), suggesting that expectations serve as positive signals that enhance rather than diminish satisfaction outcomes. These findings challenge traditional contrast theory predictions and support the idea that consumer expectations function as quality signals in digital markets.

In e-commerce, consumer satisfaction is a critical feedback mechanism that signals product quality, service reliability, and overall firm performance to existing and potential consumers (Ramasamy, Ramasamy & Ramasamy, 2024).

Integrating consumer satisfaction within signalling theory frameworks provides important insights for e-commerce organisations seeking to optimise their market positioning and consumer communication strategies (Zamudio, Mah & Swaminathan, 2025). Understanding

how satisfaction functions as a response to market signals and signals enables firms to design more effective consumer experience strategies that enhance immediate satisfaction outcomes and long-term signalling value in digital marketplaces (Zamudio, Mah & Swaminathan, 2025)..

In the digital context, Generation Y consumer satisfaction is increasingly mediated by perceived information authenticity and social validation through e-WOM channels (Efendioglu, 2024). This demographic demonstrates higher satisfaction when they perceive e-WOM content as genuine and balanced, rather than artificially positive or commercially motivated (Anastasiei, Dospinescu & Dospinescu, 2024). Recent empirical studies investigating factors affecting online purchase behaviour of Generation Z and Millennials reveal that when consumers perceive a product or service to be of high quality, they are more likely to share positive experiences and achieve higher satisfaction outcomes (Jain, Dixit & Shukla, 2023; Agrawal, 2022).

3. Research gap and theoretical positioning

The intersection of Generation Y characteristics, market signalling theory, and e-WOM dimensions reveals significant gaps in current understanding that this study addresses.

Despite growing recognition of Generation Y's unique consumer characteristics, limited research has examined how e-WOM dimensions specifically function as market signals for this demographic in emerging market contexts. A recent systematic review of e-WOM and brand relationships, analysing 279 research articles, reveal gaps in understanding Generation Y-specific information processing mechanisms (Maru & Sai Vijay, 2024). Existing studies typically focus on general populations or developed market environments, potentially missing critical insights about Generation Y-specific digital consumer behaviour patterns (Maru & Sai Vijay, 2024; Ismagilova et al., 2020).

This study addresses this gap by applying market signalling theory to examine Generation Y e-WOM processing in South Africa. Focusing specifically on this demographic's unique characteristics and sophisticated digital evaluation mechanisms contributes to understanding how digital-native consumers evaluate and respond to e-WOM signals, providing theoretical insights and practical guidance for strategic resource allocation in e-commerce environments.

4. Research objectives and hypotheses

The primary objective of this study is to determine the e-WOM dimensions which influence the post-purchase outcome of consumer satisfaction in South African e-commerce retail organisations. The following secondary research objectives have been formulated:

- To conduct a brief literature study on e-WOM dimensions influencing consumer satisfaction;
- Investigate how Generation Y consumers process e-WOM dimensions as market signals in digital environments;
- To empirically test the hypothesised model of the relationships between the independent variables (e-WOM dimensions) and the dependent variable (consumer satisfaction); and
- Provide strategic guidance for e-commerce organisations seeking to optimise their e-WOM resource allocation for Generation Y markets.

Based on the literature review, the following hypotheses were formulated:

H1: Argument quality positively influences Generation Y consumer satisfaction.

H2: Credibility positively influences Generation Y consumer satisfaction.

H3: Usefulness positively influences Generation Y consumer satisfaction.

H4: E-WOM positively influences Generation Y consumer satisfaction.

H5: Trust in messages positively influences Generation Y consumer satisfaction.

H6: Valence positively influences Generation Y consumer satisfaction.

H7: Volume positively influences Generation Y consumer satisfaction.

5. Research design and methodology

This section details the research design, data collection procedures, and analytical approaches employed to investigate Generation Y e-WOM processing mechanisms and their relationship with consumer satisfaction.

5.2 Research philosophy and design

This study adopts a positivist research philosophy, employing quantitative methodology to test theoretically derived hypotheses about Generation Y e-WOM processing mechanisms (Bell, Bryman & Harley, 2022; Wiid & Diggines, 2020; Saunders et al., 2019). The research design utilises primary data collection through structured surveys to examine relationships between e-WOM dimensions and consumer satisfaction among South African Generation Y consumers (Yildirim & Korkmaz, 2020).

5.3 Target population and sampling

The target population comprises South African Generation Y consumers aged 25-40 who have made online purchases within the previous 12 months. This demographic was selected due to their digital nativity, economic influence, and unique e-WOM processing characteristics identified in contemporary literature (Mude & Undale, 2023; Priporas, Stylos & Fotiadis, 2017).

Sampling employed non-probability convenience and snowball techniques to reach Generation Y consumers across South Africa's major metropolitan areas. The sampling frame was established through social media platforms, professional networks, and online consumer communities frequented by the target demographic (Saunders, Lewis & Thornhill, 2019).

5.4 Data collection

The data collection process employed digital channels appropriate for reaching Generation Y consumers while ensuring data quality and validity for subsequent statistical analysis.

Data collection utilised a structured online questionnaire distributed through multiple digital channels, including social media platforms, email networks, and online consumer forums. The questionnaire employed established scales for measuring e-WOM dimensions and consumer satisfaction, adapted for Generation Y consumer contexts based on contemporary literature (Chen, Martinez & Singh, 2023).

Six hundred eighteen responses were collected over six weeks in late 2024, with 405 usable responses after data cleaning and validation procedures. This represents a 65.6% usable response rate, exceeding minimum requirements for structural equation modelling applications (Kline, 2016).

5.5 Measurement instrument

Valid and reliable measurement instruments are essential for accurately capturing e-WOM dimensions and consumer satisfaction constructs within Generation Y contexts.

E-WOM dimensions were measured using adapted scales from recent literature, specifically validated for Generation Y consumer contexts. Consumer satisfaction was measured using established scales adapted for digital commerce environments (Mude & Undale, 2023). All

constructs employed seven-point Likert scales to capture response variation and enable sophisticated statistical analysis.

5.6 Data Analysis

The analytical approach employs advanced statistical techniques for examining complex relationships between multiple e-WOM dimensions and consumer satisfaction outcomes.

Data analysis employed structural equation modelling (SEM) using AMOS 27.0 to test the hypothesised relationships between e-WOM dimensions and Generation Y consumer satisfaction (IBM Corp, 2021). Confirmatory factor analysis (CFA) was conducted to validate measurement models, followed by structural model testing to examine hypothesised relationships (York, 2021; Hair Jr et al., 2017). Additionally, Cronbach's Alpha coefficients were employed to assess reliability (Hair Jr et al., 2017).

5.7 Ethical Considerations

Ethical research practices are fundamental to consumer behaviour research, particularly when collecting data from digital-native populations.

Ethical clearance was obtained from the institution's Human Ethics Committee (Reference: 2024-6289-7451). All participants provided informed consent, and data confidentiality was maintained throughout the research.

6. Results and findings

This section presents the empirical findings from the statistical analysis of Generation Y e-WOM processing mechanisms and their relationships with consumer satisfaction. It employs structural equation modelling to test the theoretically derived hypotheses.

6.1 Demographics

The sample consisted of 34.3% who indicated their gender was Male, 64.2% who indicated that their gender was Female, and 1.5% who identified as LGBTQIA+. This gender distribution reflects a female-majority sample, which is commonly observed in social science research due to higher response rates among female participants (Mohajer & Jan, 2017; Roth et al., 2012). The inclusion of LGBTQIA+ participants, while representing a small percentage, demonstrates the study's commitment to inclusive data collection practices that acknowledge gender diversity beyond the traditional binary framework (Meyer & Wilson, 2009).

Regarding online shopping behaviour, nearly half of the respondents (47.4%) reported shopping online at least once a month, while 16.3% did so weekly. A further 21.7% indicated shopping online every three months, 10.9% every six months, and 3.7% at least once a year. These figures confirm the digital maturity of Generation Y consumers, with 85.4% engaging in online shopping at least quarterly.

When asked about their primary reason for shopping online, 24.7% cited convenience as the most influential factor, followed closely by direct home delivery (20.0%) and 24/7 availability (17.5%). Other notable reasons included access to a greater product range (12.1%), cheaper prices (9.1%), an undisturbed shopping process (6.9%), the ability to compare options (6.4%), and access to more product information (3.2%). These findings support the notion that Generation Y consumers prioritise control, flexibility, and informational clarity in their digital purchasing environments (Priporas, Stylos & Fotiadis, 2017).

6.2 Confirmatory Factor Analysis (CFA)

A CFA was conducted using a structured approach to validate the model. Initially, emphasis was placed on the statistical significance of all parameter estimates within the model, typically

indicated by a p-value below 0.05. The model fit was evaluated using various goodness-of-fit indices, and Modification Indices (MI) were applied where relevant.

The initial assessment revealed suboptimal fit indices for several dimensions, particularly valence (RMSEA = 0.205) and credibility (CMIN/df = 7.089), necessitating targeted modifications. These findings guided the systematic application of modification indices to enhance measurement model quality while preserving theoretical coherence.

6.3 Model refinement and final measurement properties

The final goodness-of-fit results for the e-WOM dimensions after considering the MIs demonstrated acceptable model fit. The key indices used include χ^2 (Chi-Square), CMIN/df, SRMR (Standardised Root Mean Square Residual), CFI (Comparative Fit Index), and RMSEA (Root Mean Square Error of Approximation). The overall e-WOM model achieved acceptable goodness-of-fit (CFI = 0.898, RMSEA = 0.055), with individual construct reliabilities exceeding the 0.7 threshold.

Targeted modifications were implemented based on theoretically justified covariances between related items. Three item pairs were covariated for consumer satisfaction due to high modification indices, reflecting strong conceptual relationships between satisfaction levels, perceived decision-making wisdom, and positive word-of-mouth intentions. Similar refinements were applied to argument quality (relevance-applicability and reliability-comprehensiveness correlations), credibility (reviewer knowledge-trustworthiness associations), and valence (balanced review perception correlations).

TABLE 1

GOODNESS-OF-FIT RESULTS AFTER MODIFICATION INDICES (MIS) AFTER REFINEMENT

Factor	Parameters	$\chi^2(df, p)$	CMIN/df	SRMR	CFI	RMSEA
Consumer satisfaction	All significant	71.192 (24, 0.000)	2.966	0.0316	0.974	0.07
Argument quality	All significant	40.434 (12, 0.000)	3.37	0.0427	0.97	0.077
Credibility	All significant	64.411 (18, 0.000)	3.578	0.041	0.964	0.08
Usefulness	All significant	0.000 (0, 0.000)	-	0.000	1.000	0.000
Existing e-WOM	All significant	21.794 (5, 0.001)	4.359	0.0347	0.971	0.091
Trust in message	All significant	6.864 (2, 0.032)	3.432	0.0214	0.989	0.078
Valence	All significant	0.085 (1, 0.770)	0.085	0.0023	1.000	0.000
Volume	All significant	0.000 (0, 0.000)	-	0.000	1.000	0.000
e-WOM	All significant (at 10%)	1155.72 (515, 0.000)	2.244	0.0691	0.898	0.055

Source: Researcher's construction

The refined model (Table 1) demonstrates substantial improvements across all fit indices. Most critically, the overall e-WOM model achieved acceptable goodness-of-fit (CFI = 0.898, RMSEA = 0.055), meeting established thresholds for model adequacy. Individual constructs exhibited strong fit properties: CMIN/df ratios below 4.0 (acceptable threshold < 5.0), SRMR values well below 0.08 (indicating good fit), CFI values approaching or exceeding 0.90 (good fit threshold), and RMSEA values predominantly below 0.10 (acceptable fit criterion).

6.4 Reliability assessment

Internal consistency reliability was assessed using Cronbach's alpha coefficients, with all dimensions exceeding the 0.70 threshold recommended for research applications. These high reliability scores confirm the robustness of measurement instruments and validate the integrity of subsequent structural analyses, providing confidence in the study's empirical foundations.

6.5 Structural Equation Modelling (SEM)

Hypothesis testing

The structural equation modelling analysis revealed complex signalling dynamics within the e-WOM ecosystem, with significant variations in the predictive power of different dimensions on consumer satisfaction. The analysis identified three dimensions as statistically significant predictors while revealing unexpected directional relationships that provide important insights into consumer evaluation mechanisms in digital markets.

Table 3: Structural Path Coefficients and Significance Testing

Relationship	Estimate (β)	Standard Error	Critical Ratio	P-value	Hypothesis Support
Argument Quality → Consumer Satisfaction	**0.112**	0.038	2.956	**0.003***	H1.1 Supported
Credibility → Consumer Satisfaction	**-0.075**	0.029	-2.578	**0.010**	H1.2 Partial**
Usefulness → Consumer Satisfaction	0.034	0.032	1.062	0.288	H1.3 Rejected
Existing e-WOM → Consumer Satisfaction	0.027	0.023	1.150	0.250	H1.4 Rejected
Trust in message → Consumer Satisfaction	-0.025	0.029	-1.725	0.381	H1.5 Rejected
Valence → Consumer Satisfaction	**-0.041**	0.016	-2.631	**0.009***	H1.6 Partial**
Volume → Consumer Satisfaction	0.027	0.030	0.890	0.373	H1.7 Rejected
*Significant at $p < 0.01$ **Significant but contrary to the predicted direction					

Source: Researcher's construction

Market signalling effectiveness analysis

The structural analysis reveals that argument quality emerges as the dominant market signal ($\beta = 0.112$, $p < 0.01$), demonstrating the strongest positive relationship with consumer satisfaction. This finding aligns with signalling theory predictions that substantive, well-reasoned information provides the most reliable market signals by reducing information asymmetry and enabling more informed consumer decision-making.

Credibility and valence present intriguing counter-intuitive findings with significant but negative relationships to satisfaction ($\beta = -0.075$, $p < 0.05$ and $\beta = -0.041$, $p < 0.01$, respectively). These negative coefficients suggest sophisticated consumer evaluation mechanisms where overly credible or extremely positive signals may paradoxically reduce satisfaction, potentially indicating consumer scepticism toward perceived manipulation or artificially enhanced content.

Four dimensions failed to achieve statistical significance (usefulness, existing e-WOM, trust in message, and volume), suggesting that these factors may function differently in the South African market context or require different operationalisation to demonstrate their signalling effectiveness.

6.6 Correlation analysis and relationship patterns

Pearson product-moment correlation analysis examined the bivariate relationships between validated constructs, providing additional insight into the association patterns within the e-WOM ecosystem.

Inter-construct correlations

The correlation analysis revealed statistically significant relationships between several e-WOM dimensions and Consumer satisfaction, confirming the structural model findings while providing

additional nuance regarding relationship strengths. Argument quality demonstrated moderate positive correlations with Consumer satisfaction, reinforcing its role as an effective market signal. The overall e-WOM construct showed significant positive associations with satisfaction, indicating that the aggregate signalling effect remains beneficial despite individual dimension variations.

Notably, valence exhibited slight inverse correlations with satisfaction measures, consistent with the structural model findings. It supported the interpretation that consumers in this market context may discount overly positive sentiment as potentially manipulated information.

Relationship strength interpretation

Following established correlation interpretation guidelines ($r < 0.3$ = weak, $0.3 \leq r < 0.5$ = moderate, $r \geq 0.5$ = strong), the analysis revealed:

- Moderate positive relationships between argument quality dimensions and consumer satisfaction
- Weak to moderate positive associations between credibility factors and satisfaction (despite negative structural coefficients)
- Weak negative correlations between valence extremity and satisfaction outcomes
- Strong inter-correlations among e-WOM dimensions, suggesting construct validity while maintaining discriminant validity

7. Discussion

The empirical findings reveal complex signalling dynamics in the South African e-commerce market, providing insights into how different e-WOM dimensions function as market signals and influence consumer satisfaction. This section analyses the economic implications of these findings and their theoretical contributions to market signalling theory, offering a comprehensive understanding of consumer behaviour in emerging digital markets.

7.1 Economic implications

The findings reveal complex market dynamics in the South African e-commerce sector that align with contemporary signalling theory applications in digital markets. The positive relationship between argument quality and satisfaction indicates that consumers value well-reasoned, comprehensive reviews that provide substantive information about products, consistent with recent meta-analytical evidence identifying argument quality as one of the most effective predictors of consumer intention (Ismagilova et al., 2020). This suggests that e-WOM functions as an effective mechanism for reducing information asymmetry and transaction costs in digital markets. It supports the theoretical framework proposed by Schweidel et al. (2022) regarding consumer digital signals as indicators of consumer interests and preferences during their journey. Recent industry research confirms this trend. Intelligence Node (2024) reports that 52% of consumers are inclined to organic search results, indicating sophisticated information processing mechanisms that prioritise authentic content over manipulated signals.

The negative coefficients for credibility and valence present intriguing economic implications that reflect sophisticated consumer behaviour patterns observed in contemporary digital markets. These results suggest that South African millennial consumers may have developed sophisticated filtering mechanisms for potentially manipulated content, aligning with recent research by Le et al. (2024), who found that overly credible sources may paradoxically trigger consumer scepticism, particularly in contexts where manipulation is suspected. This finding supports the notion that contemporary consumers have evolved beyond simple heuristic processing of positive signals, demonstrating market sophistication where consumers actively

discount potentially biased information. McKinsey's 2024 State of the Consumer report further validates this observation, noting that while consumers increasingly use social media for product research (32% in 2024 compared to 27% in 2023), they simultaneously express distrust in social media as a decision-making source, preferring peer recommendations over platform-generated content (McKinsey & Company, 2024).

The economic significance of these findings extends beyond immediate transaction costs to encompass broader implications for market efficiency and consumer welfare. Research by Zamudio, Mah and Swaminathan (2025) demonstrates that customer satisfaction is a powerful market signal influencing firm value and investor behaviour. This suggests that the complex signalling dynamics observed in this study affect firm performance and market valuation. The ability of consumers to distinguish between authentic and potentially manipulated content indicates an evolved form of market efficiency where information quality rather than quantity drives satisfaction outcomes, consistent with the digital market evolution described by Liu et al. (2024). Contemporary market research by Antczak (2024) supports this perspective, demonstrating that digital marketing effectiveness depends increasingly on authenticity and trust-building rather than traditional promotional approaches, with consumers exhibiting heightened scepticism toward potentially manipulated content across digital platforms.

7.2 Market signalling theory

From a market signalling perspective, the results demonstrate that not all e-WOM dimensions function equally as market signals, supporting Spence's (1974) foundational theory that signals vary in effectiveness based on their ability to convey credible information to market participants. Argument quality emerges as the most reliable signal, suggesting consumers prioritise substantive, detailed information over superficial positive sentiment. This finding has important implications for platform design and content moderation policies, as it indicates that consumers have developed sophisticated mechanisms for evaluating information quality in digital environments. Recent research by Mu and Yi (2024) examining direct-to-consumer marketing models confirms this trend, demonstrating that cost-effectiveness and social media marketing directly influence consumer loyalty when supported by substantive product information rather than superficial promotional content.

The negative relationships observed for credibility and valence suggest diminishing returns to overly positive or credible reviews, indicating market sophistication where consumers have learned to identify and discount potentially manipulated content. This represents an evolved form of market efficiency where consumers actively filter information quality, consistent with Fan, Zhang, and Rai (2021), who demonstrated that signalling effectiveness depends on authenticity and consumer perception of manipulation. The findings align with Beck et al. (2023), who showed that consumer social media shopping behaviour is influenced by perceived authenticity of e-WOM content rather than simply positive valence. Industry data from Ryder's 2024 e-commerce consumer study supports this observation, revealing that 61% of consumers prefer in-store shopping specifically because they enjoy the authentic experience, while 55% prefer returning online purchases in-store, indicating a preference for authentic, tangible interactions over purely digital ones (Ryder, 2024).

These results contribute to understanding the application of signalling theory in digital contexts, where manipulation concerns may subvert traditional signalling mechanisms. The sophisticated consumer behaviour observed suggests that emerging markets like South Africa have developed advanced filtering mechanisms that challenge conventional assumptions about positive signal effectiveness. This evolution reflects the broader digital market transformation Maru and Sai Vijay (2024) described in their systematic review of e-WOM and brand relationships, where authenticity and balanced information emerge as more powerful signals

than uniformly positive content. Contemporary research by Zhao et al. (2020) examining social e-commerce platforms further validates this perspective, showing that consumer purchase intentions are significantly influenced by perceived information authenticity rather than simple positive sentiment, particularly among digitally sophisticated consumer segments.

The theoretical implications extend to our understanding of market maturity in emerging economies. The finding that South African consumers discount overly positive or credible signals suggests that digital market sophistication may develop more rapidly than traditional market maturity indicators suggest. This aligns with Roy et al. (2024), who found that contemporary consumers demonstrate sophisticated evaluation mechanisms for e-WOM content. This indicates emerging digital markets may leapfrog traditional developmental stages in consumer sophistication. Recent industry analysis confirms this trend, with global e-commerce sales projected to exceed $8 trillion by 2028, driven primarily by consumers' ability to navigate and evaluate complex digital information ecosystems effectively (Statista Research Department, 2025).

8. Practical managerial implications and recommendations

The research findings provide actionable insights for e-commerce organisations seeking to optimise their e-WOM strategies and enhance consumer satisfaction. Based on the empirical evidence that argument quality, credibility, and valence function as significant market signals, the following recommendations are proposed to help organisations leverage e-WOM dimensions effectively while addressing the complex signalling dynamics observed in the South African market.

8.1 Argument quality enhancement

E-commerce organisations should focus on fostering high-quality reviews that provide comprehensive, relevant information about products, as the research demonstrates that argument quality is the most reliable market signal with the strongest predictive power for consumer satisfaction ($\beta = 0.112$, $p < 0.01$). This finding aligns with Knight, Haddoud, and Megicks (2022), who emphasised that high-quality arguments characterised by relevance, accuracy, and comprehensiveness significantly influence consumer confidence and satisfaction. Organisations should implement comprehensive review guidelines encouraging detailed, substantive consumer feedback, moving beyond simple star ratings to narrative reviews that provide diagnostic information about product performance and usability. Recent industry research confirms this strategic importance. Intelligence Node (2024) reports that inadequate product descriptions and missing images deter over 57% of shoppers from purchasing, while one in two abandon product pages that lack accurate information and visuals.

The strategic importance of argument quality extends beyond simple review collection to encompass systematic quality management processes. As Li, Chen and Chen (2023) demonstrated, well-structured, detailed arguments serve as credible signals that enhance consumers' perceived diagnosticity of e-WOM content, ultimately leading to increased purchase intention and satisfaction. Organisations should provide specific incentives for comprehensive reviews that address multiple product attributes, such as functionality, design, durability, and value proposition (Li, Chen & Chen, 2023). This approach should be complemented by systematically removing poorly argued or superficial reviews that add little diagnostic value, as these may dilute the signalling effectiveness of high-quality content (Li, Chen & Chen, 2023). Contemporary consumer behaviour research by Antczak (2024) supports this approach, demonstrating that consumers increasingly value authentic, detailed information over superficial promotional content, with digital marketing effectiveness dependent on substantive rather than manipulative communication strategies.

Furthermore, organisations should encourage reviewers to include specific details about product performance and usability contexts, as this specificity enhances the signalling value of reviews. The meta-analytical evidence provided by Ismagilova et al. (2020) suggests that argument quality functions as one of the most effective predictors of consumer intention, indicating that investment in argument quality enhancement yields substantial returns regarding consumer satisfaction and behavioural outcomes. Reviewer education programs that guide consumers in providing valuable, diagnostic feedback that serves their peers and the organisation's signalling objectives should support this strategic focus on argument quality. Recent market analysis by Mu and Yi (2024) examining direct-to-consumer marketing models confirms that product features contribute to consumer loyalty through perceived emotional value when supported by detailed, authentic information rather than superficial promotional content.

8.2 Credibility management

Given the negative relationship between credibility and satisfaction ($\beta = -0.075$, $p < 0.05$), organisations must adopt a nuanced approach to credibility management that addresses consumer scepticism toward potentially manipulated content. This finding supports the research by Le et al. (2024), who found that overly credible sources may paradoxically trigger consumer scepticism, particularly in contexts where manipulation is suspected. Organisations should avoid over-promoting reviewer credentials that may trigger consumer scepticism, instead focusing on transparent verification processes that authenticate purchase history without overselling reviewer expertise. Contemporary market research by McKinsey & Company (2024) validates this approach, revealing that while consumers increasingly use social media for product research, they simultaneously express distrust in social media as a decision-making source, preferring authentic peer recommendations over platform-generated or heavily promoted content.

The strategic approach to credibility management should emphasise authenticity over authority, focusing on verified purchase reviews rather than expert endorsements that may be perceived as potentially biased. Verma and Dewani (2021) demonstrated in their comprehensive framework that consumer sophistication and market context moderated credibility perceptions, suggesting that organisations must balance credibility signals with authenticity concerns. This balance can be achieved through transparent review verification processes that indicate verified purchases while avoiding excessive emphasis on reviewer credentials that may trigger manipulation concerns. Industry data from Ryder's 2024 e-commerce consumer study supports this perspective, showing that 77% of consumers search for items on mobile devices in stores, indicating a preference for authentic, verifiable information over potentially manipulated online content (Ryder, 2024).

Organisations should also implement policies that allow and encourage balanced feedback, incorporating both positive and negative aspects of products, as this balanced approach may enhance authenticity, signalling more effectively than uniformly positive content. The research by Akdim (2021) suggests that extremely positive valence may paradoxically reduce consumer trust due to perceived manipulation, indicating that credibility management should focus on facilitating authentic, balanced reviews rather than maximising positive sentiment. This approach should be supported by clear communication about review policies and verification processes, enabling consumers to understand and trust the authenticity of the review ecosystem. Recent research by Zhao et al. (2020) examining social e-commerce platforms confirms this strategy, demonstrating that consumer purchase intentions are significantly influenced by perceived information authenticity and transparency rather than simple credibility indicators or promotional emphasis.

8.3 Valence optimisation

The negative relationship between valence and satisfaction ($\beta = -0.041$, $p < 0.01$) indicates that organisations should resist the temptation to optimise for uniformly positive sentiment, instead focusing on authentic, balanced feedback that serves as a more effective market signal. This finding aligns with the research by Roy, Datta, and Mukherjee (2019), who demonstrated that balanced valence, incorporating both positive and negative aspects, may be more effective than uniformly positive content in influencing consumer behaviour. Organisations should therefore develop policies that encourage nuanced feedback highlighting product strengths and limitations, as this balanced approach may enhance consumer trust and satisfaction more effectively than manipulated positive sentiment (Ismagilova et al., 2020). Recent industry analysis by BigCommerce (2024) supports this perspective, indicating that consumers increasingly expect authentic, balanced information in their decision-making processes, with 73% of retail consumers shopping across multiple channels to verify product information and avoid potentially biased sources.

The strategic implications of valence optimisation extend beyond simple sentiment management to encompass broader authenticity signalling strategies. As Zhao et al. (2020) demonstrated, consumer purchase intentions in social e-commerce are significantly influenced by perceived authenticity of information, suggesting that organisations should prioritise authentic feedback ecosystems over artificially positive environments. This approach requires organisations to embrace negative feedback as a valuable component of their signalling strategy, using constructive criticism to demonstrate transparency and commitment to continuous improvement. Contemporary consumer behaviour research by Antczak (2024) confirms this trend, showing that digital marketing effectiveness depends increasingly on authentic communication strategies rather than traditional promotional approaches, with consumers demonstrating sophisticated abilities to identify and discount potentially manipulated content.

Organisations should also implement systematic approaches to managing negative feedback constructively, transforming potentially damaging negative reviews into opportunities for demonstrating responsiveness and commitment to consumer satisfaction. In their systematic review, the research by Donthu et al. (2021) suggests that volume alone is insufficient for effective signalling, and that quality and authenticity considerations moderate the effectiveness of e-WOM communications. This understanding should guide organisations toward valence optimisation strategies that prioritise authentic, balanced feedback over artificially positive sentiment, ultimately enhancing long-term consumer trust and satisfaction through more effective market signalling mechanisms. Recent market research by Intelligence Node (2024) validates this approach, reporting that two-thirds of shoppers actively hunt for discounts and competitive pricing information, indicating sophisticated evaluation processes prioritising authentic value propositions over superficial positive messaging.

9. Conclusions and future research

This study contributes to behavioural economics and digital market theory by quantifying e-WOM's complex signalling role within emerging economy contexts. The findings demonstrate that effective e-WOM ecosystems can enhance consumer welfare by reducing transaction costs and information search expenses. However, the sophisticated Generation Y consumer behaviour observed suggests that platform design policies should promote authentic, balanced information flows rather than simply positive reviews.

The research reveals that South African millennial consumers have developed sophisticated mechanisms for evaluating online reviews, potentially indicating market maturity in the digital

commerce space. This has important implications for understanding consumer behaviour in emerging digital markets globally.

Future research should explore cultural variations in perceptions of trust and credibility across market structures and demographic segments. Additionally, longitudinal studies examining how e-WOM signalling mechanisms evolve would provide valuable insights into market development patterns in emerging economies.

The theoretical framework developed in this study offers insights applicable to emerging digital markets globally, though cultural and contextual variations warrant further investigation. As e-commerce continues to evolve, understanding the complex dynamics of e-WOM becomes increasingly critical for academic research and practical marketing applications.

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